

KIC 007907983

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})
007907983-01	OBS	No	0.839841	132.244249	4.7	5.047	8.5	9.0	2.07	8600	0.46	43525.65
007907983-02	OBS	No	79.171580	168.973569	104.5	2.855	10.5	8.4	2.07	8600	2.31	101.45
007907983-03	OBS	No	81.393449	187.804608	118.8	1.796	8.8	6.1	2.07	8600	2.62	97.77
007907983-04	OBS	No	483.788593	267.874492	73.2	4.591	8.1	7.5	2.07	8600	2.04	9.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007907983-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007907983-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007907983-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007907983-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

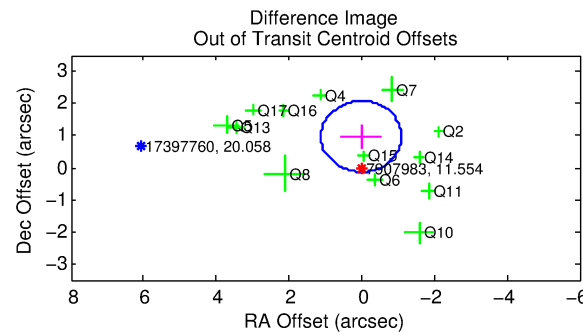
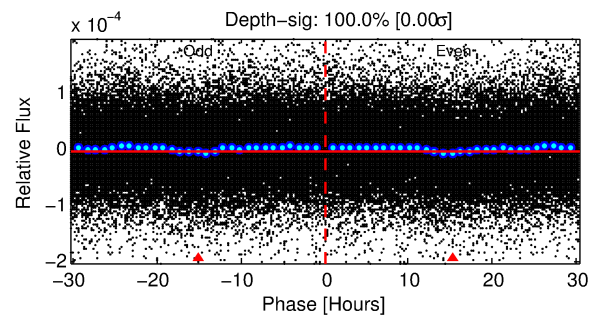
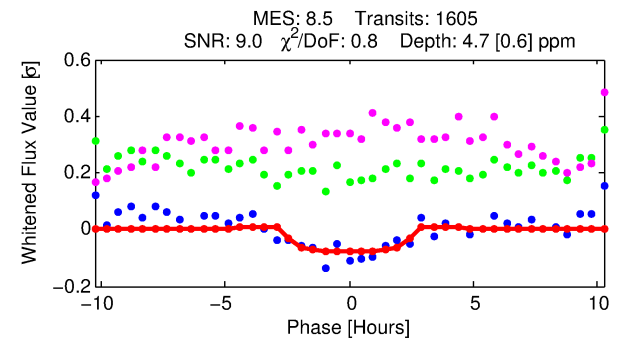
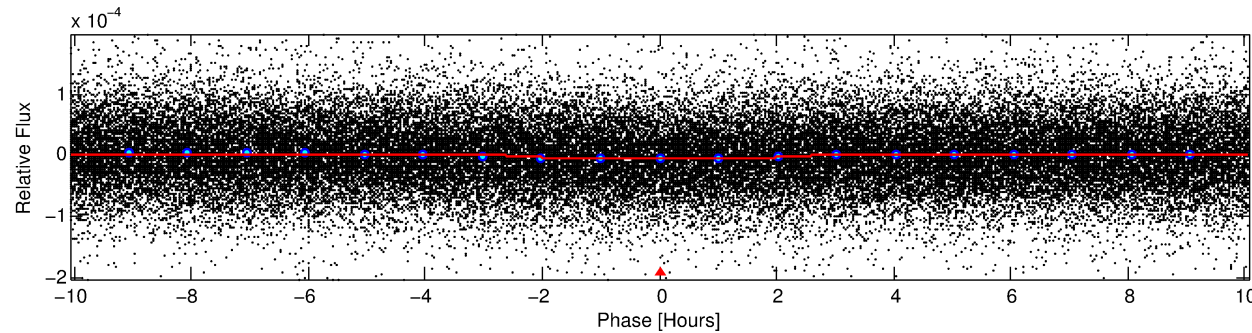
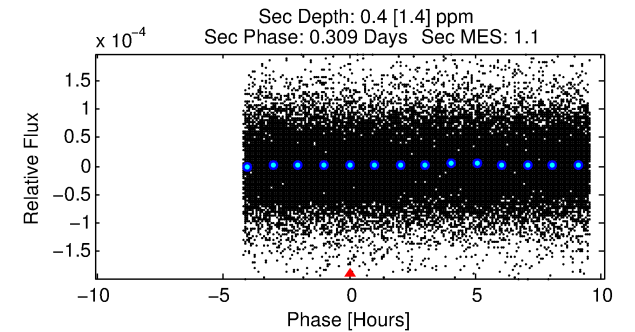
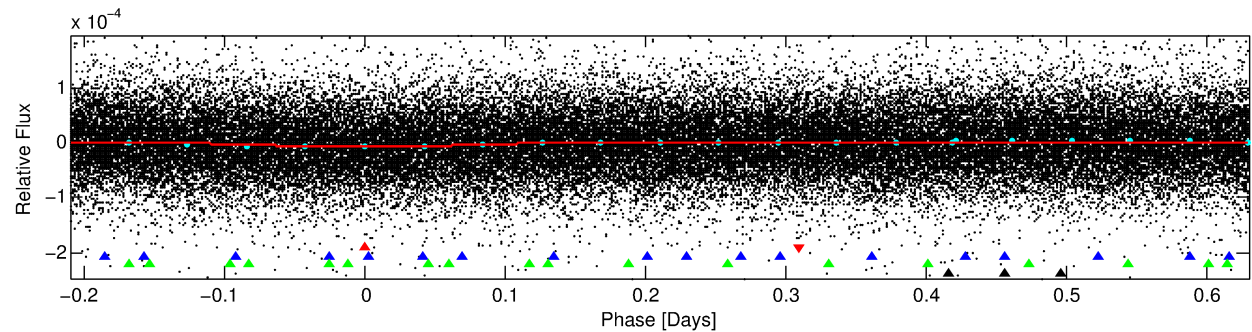
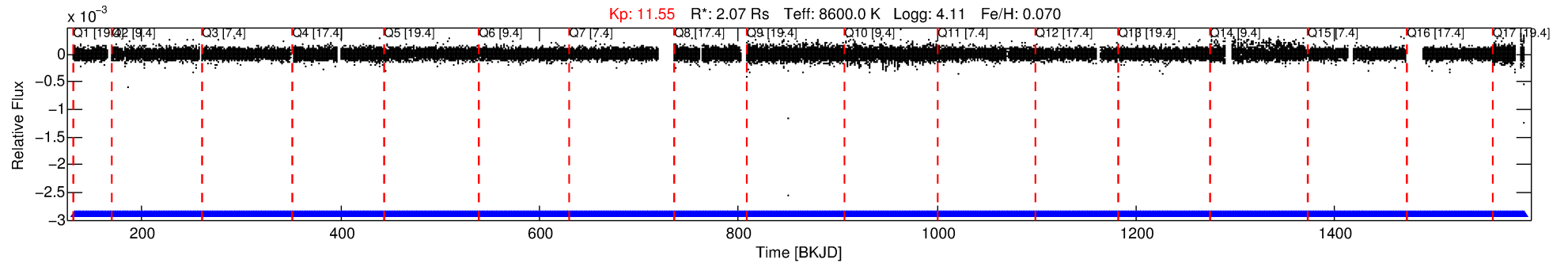
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007907983-01

No Significant Match Found

DV One-Page Summary

KIC: 7907983 Candidate: 1 of 4 Period: 0.840 d



DV Fit Results:

Period = 0.83984 [0.00001] d
Epoch = 132.2442 [0.0056] BKJD
 R_p/R^* = 0.0020 [0.0007]
 a/R^* = 1.36 [1.31]
 b = 0.40 [4.48]
 S_{eff} = 43525.65 [14851.36]
 T_{eq} = 3683 [314] K
 R_p = 0.46 [0.19] R_e
 a = 0.0220 [0.0043] AU
 A_g = 0.52 [1.79] [-0.27σ]
 T_{eff} = 4825 [4176] K [0.27σ]

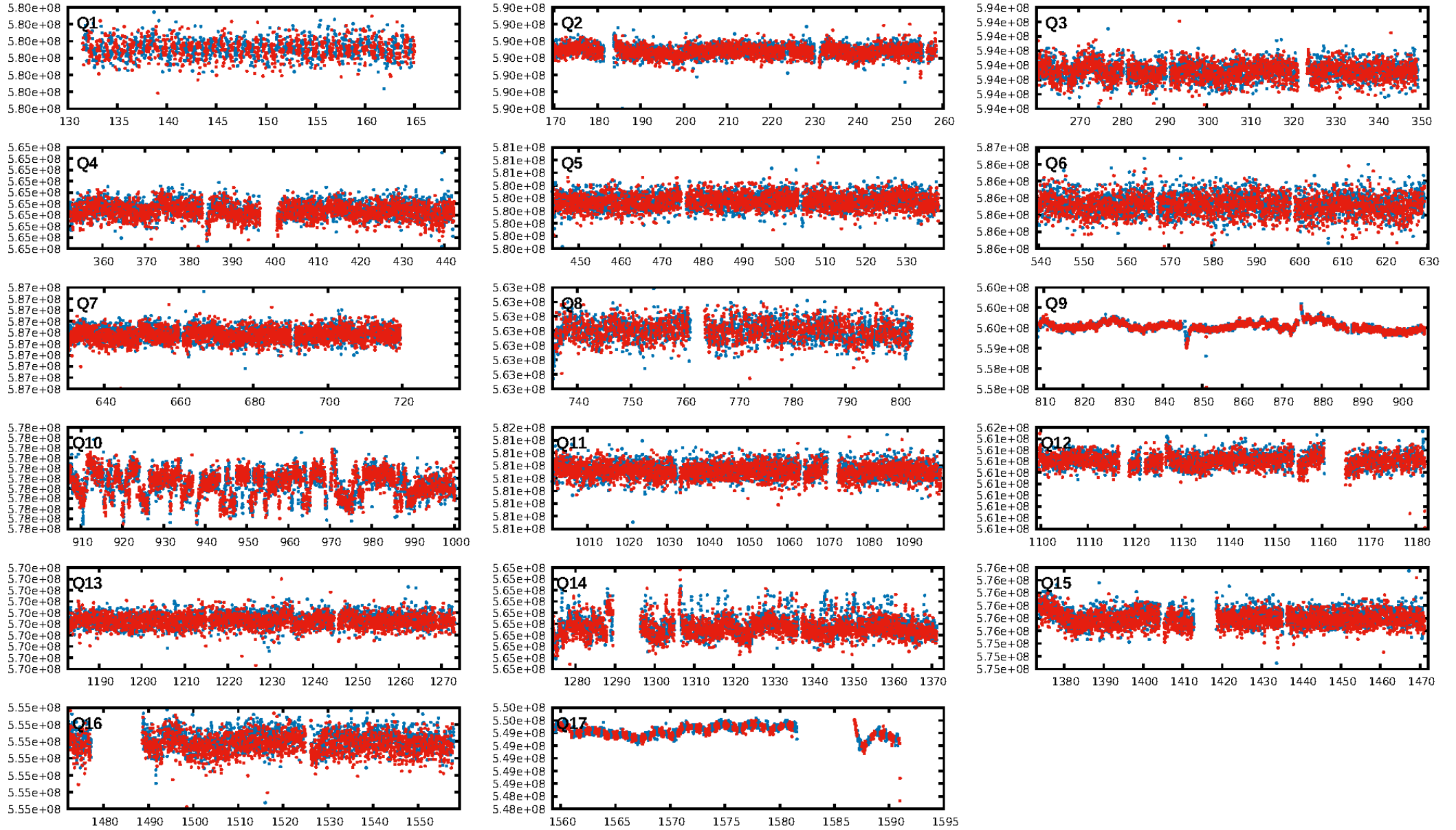
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [324.19σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.62e-11
RollingBand-fgt: 1.00 [1531/1531]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.970 arcsec [2.63σ]
KicOffset-rm: 1.039 arcsec [2.91σ]
OotOffset-st: 4/3/3/3 [13]
KicOffset-st: 4/3/3/3 [13]
DiffImageQuality-fgm: 0.85 [11/13]
DiffImageOverlap-fno: 1.00 [17/17]

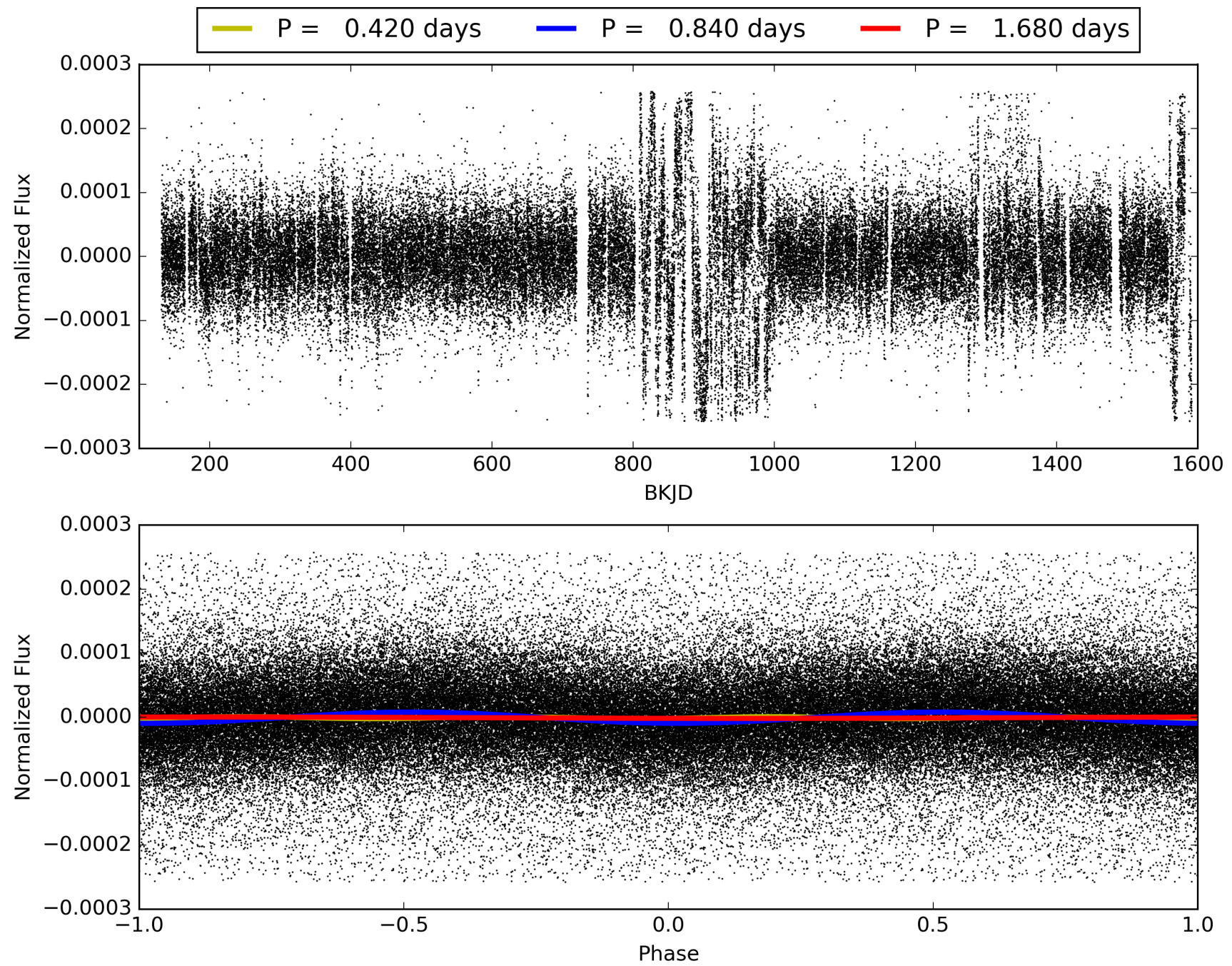
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:11:35 Z

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

TCE 007907983-01, PDC Light Curves

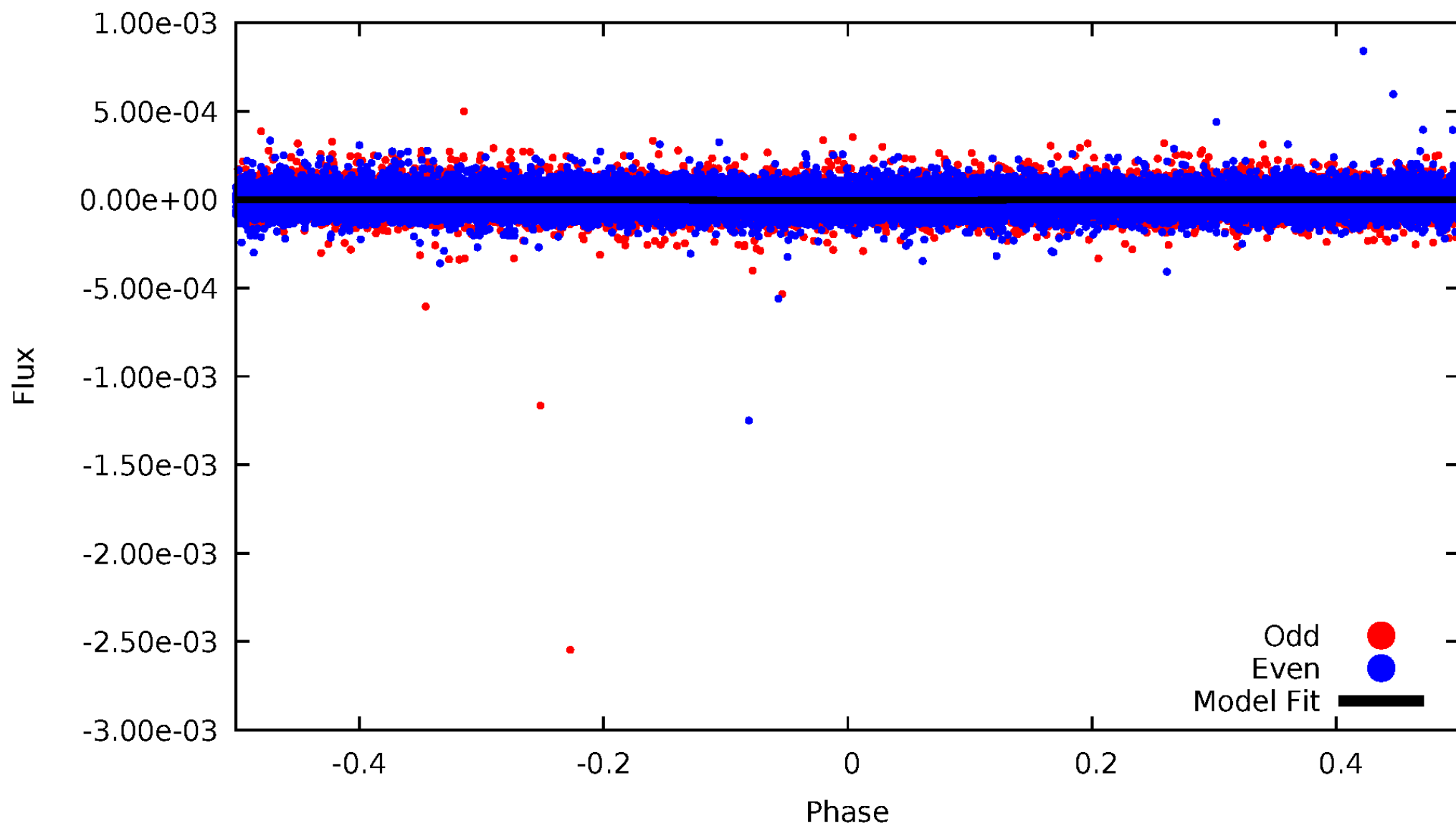


TCE 007907983-01



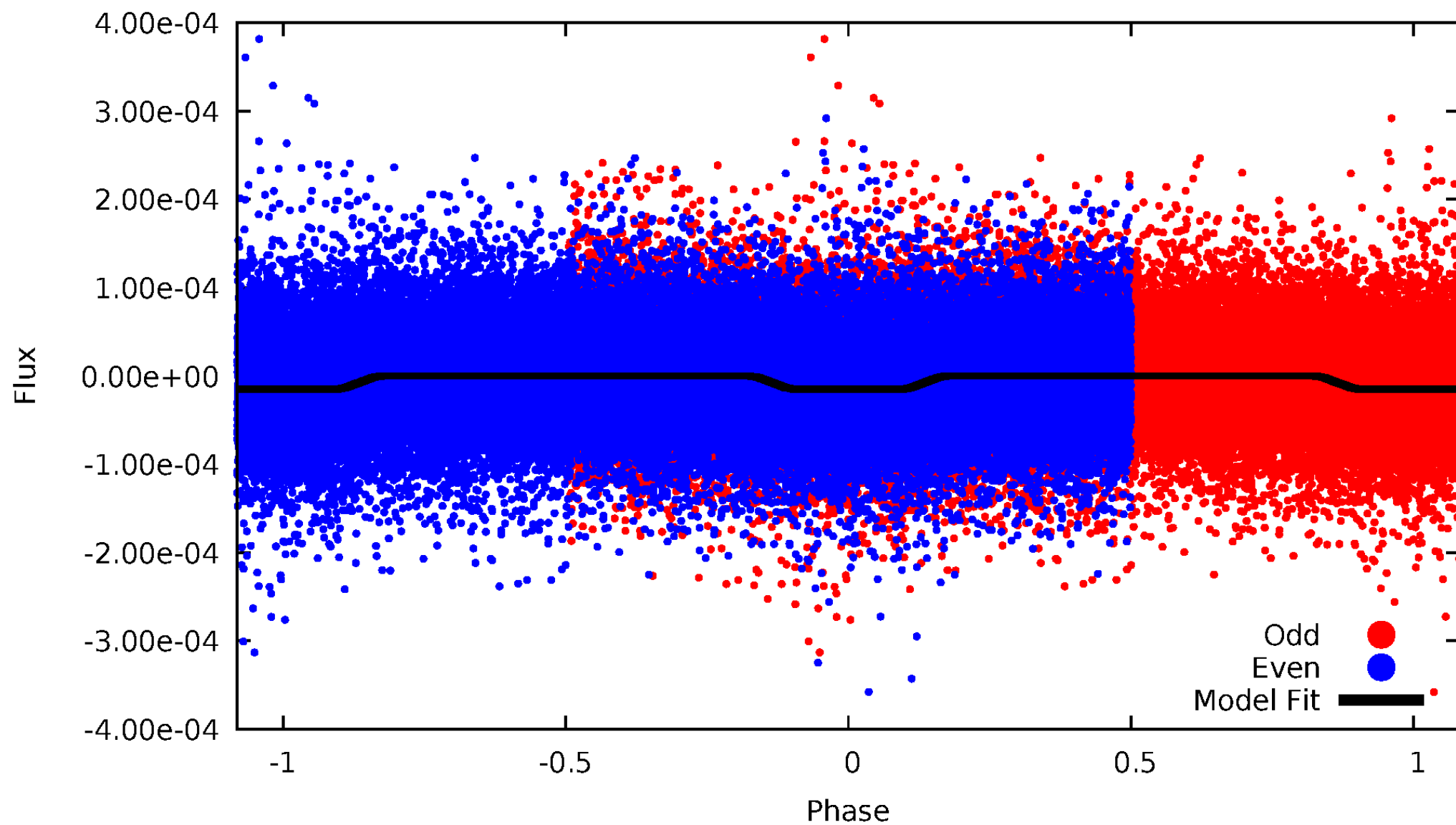
DV Odd/Even

TCE 007907983-01

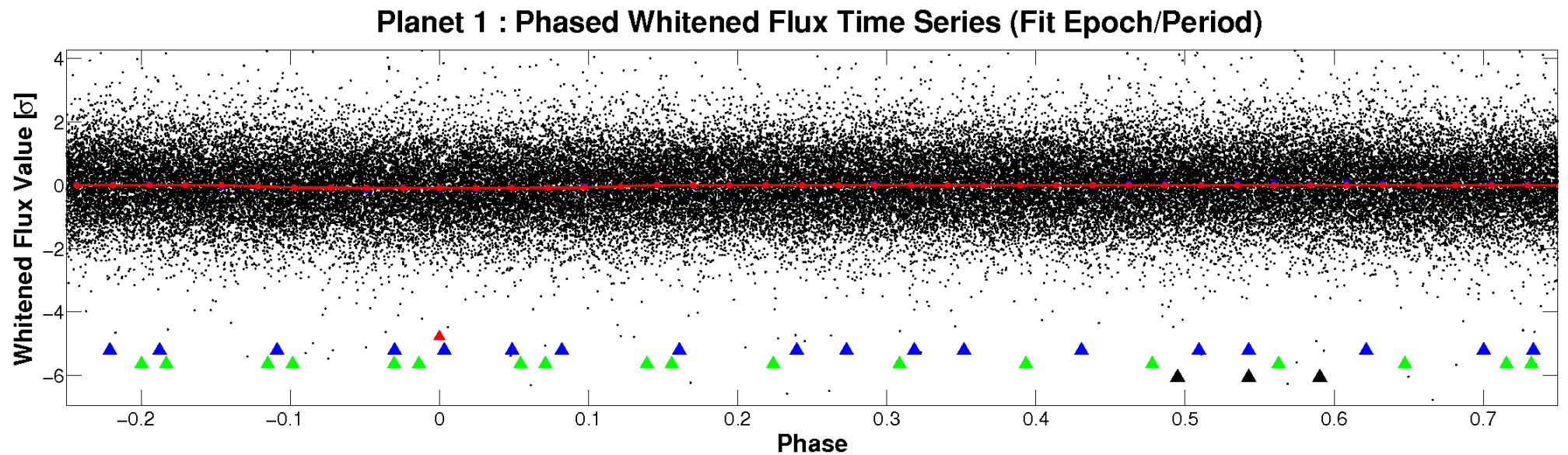
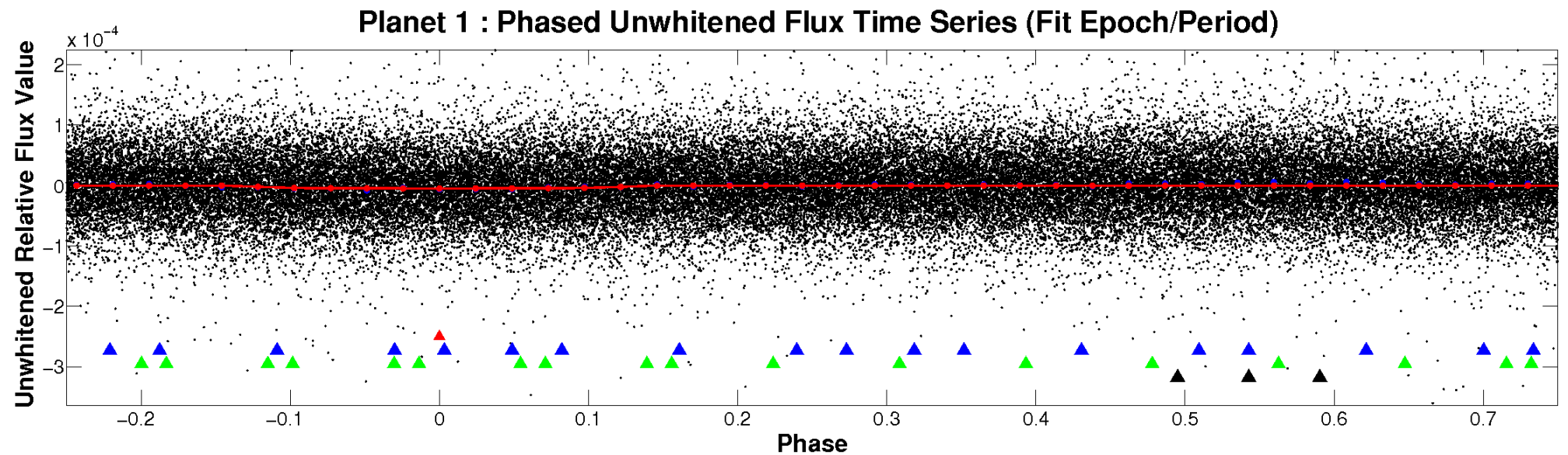


ALT Odd/Even

TCE 007907983-01

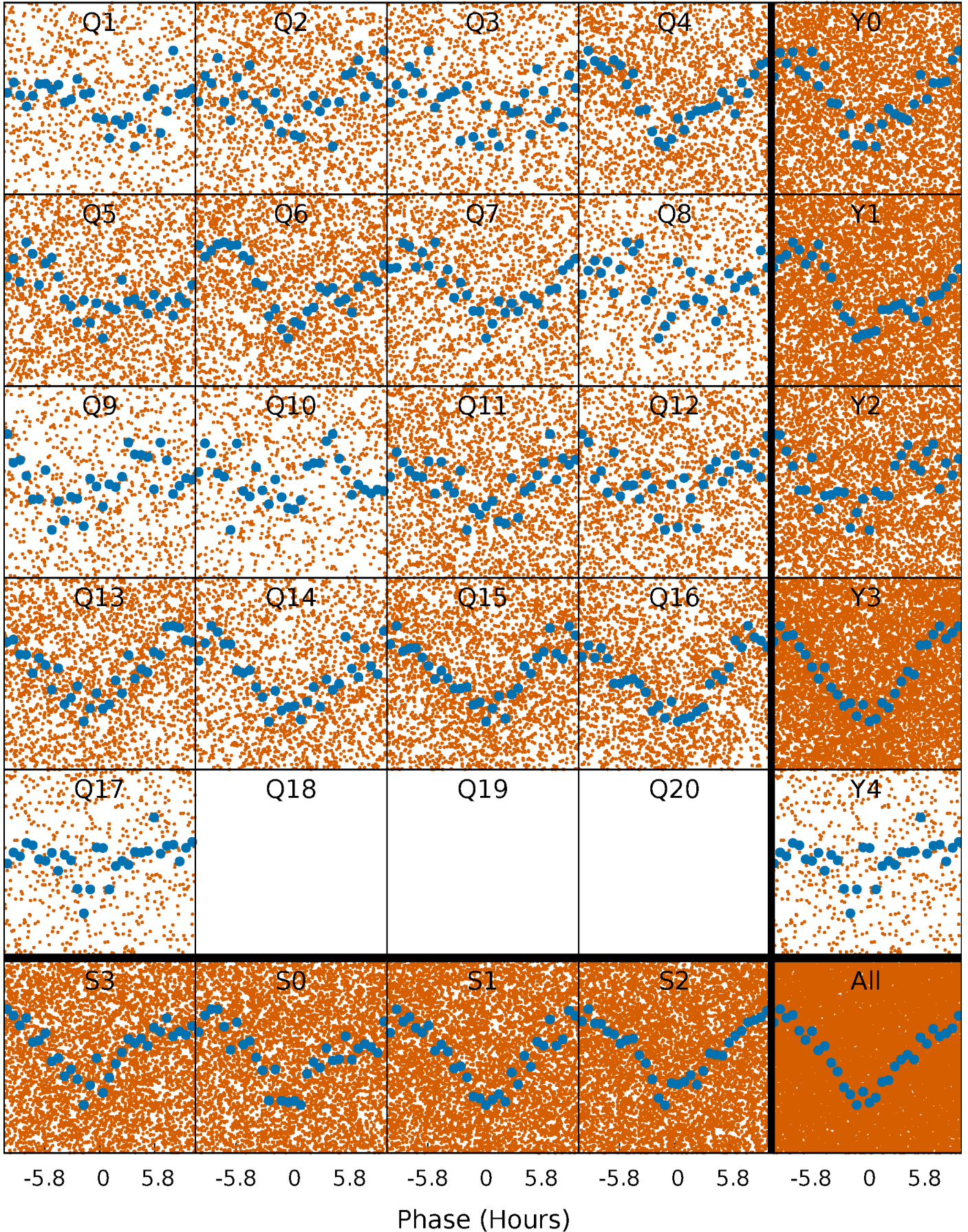


Non-Whitened Vs. Whitened Light Curve



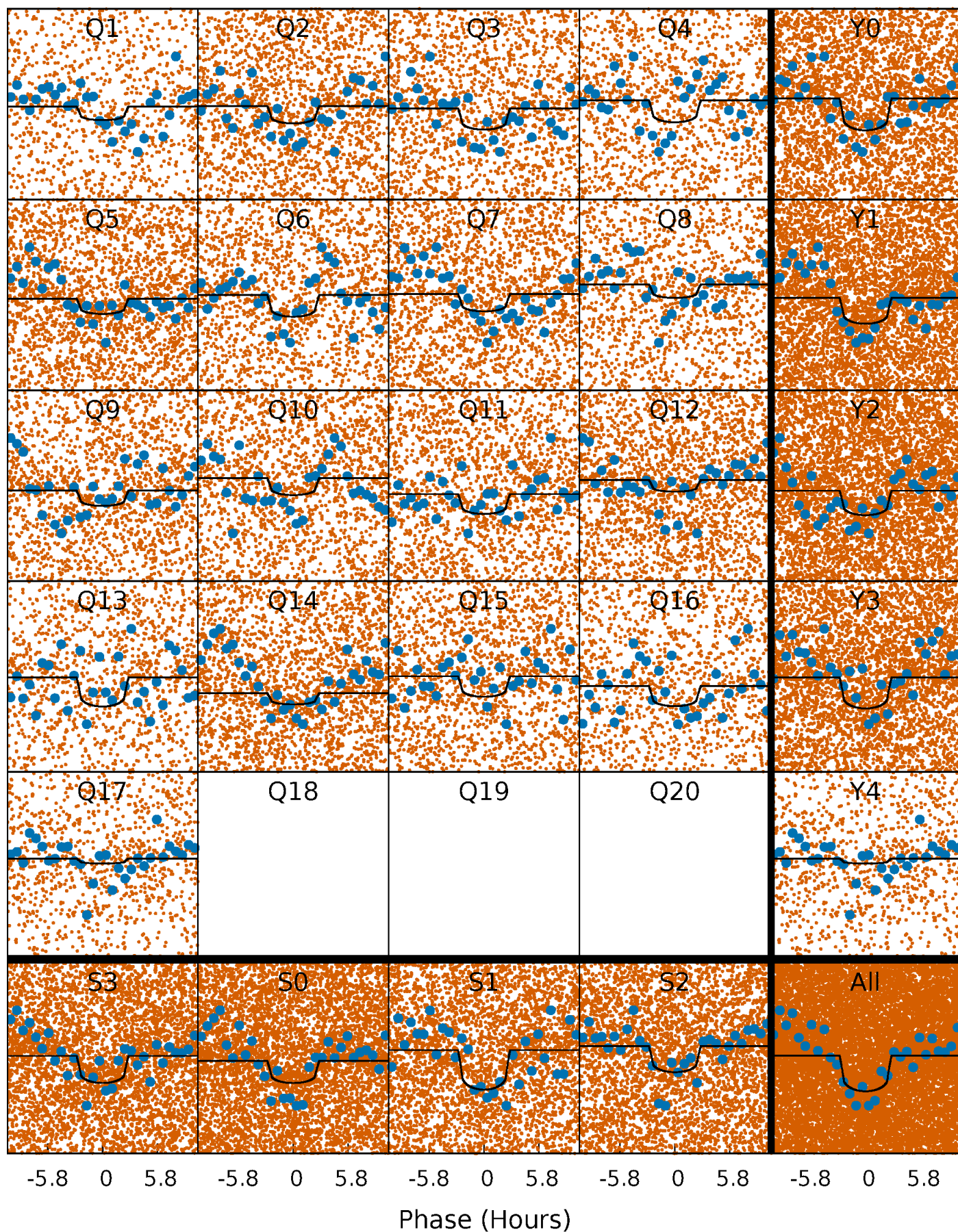
PDC Quarter-Phased Transit Curves

TCE 007907983-01 P= 0.839841 Days $T_0=132.244249$ (BKJD)



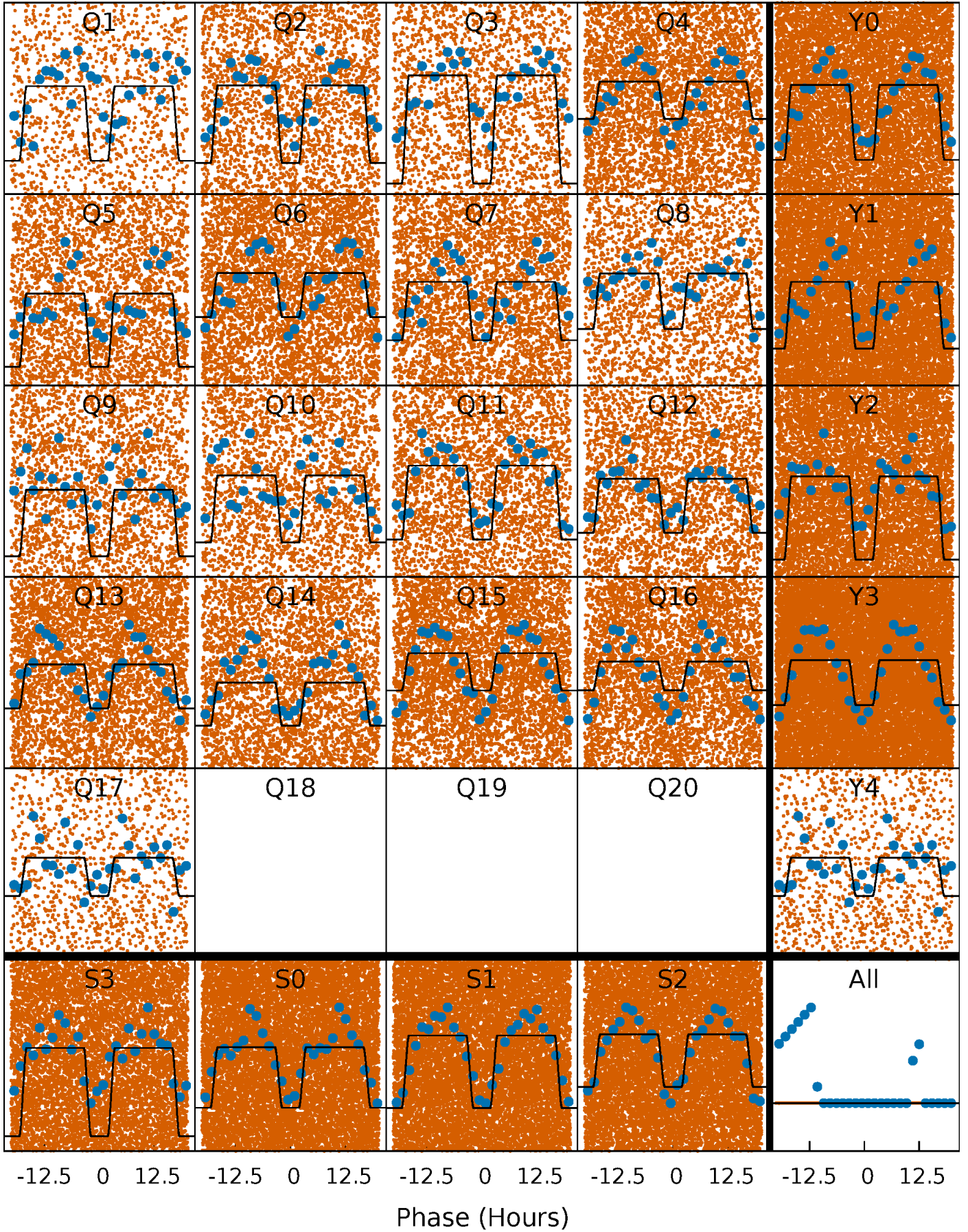
DV Quarter-Phased Transit Curves

TCE 007907983-01 P= 0.839841 Days $T_0=132.244249$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

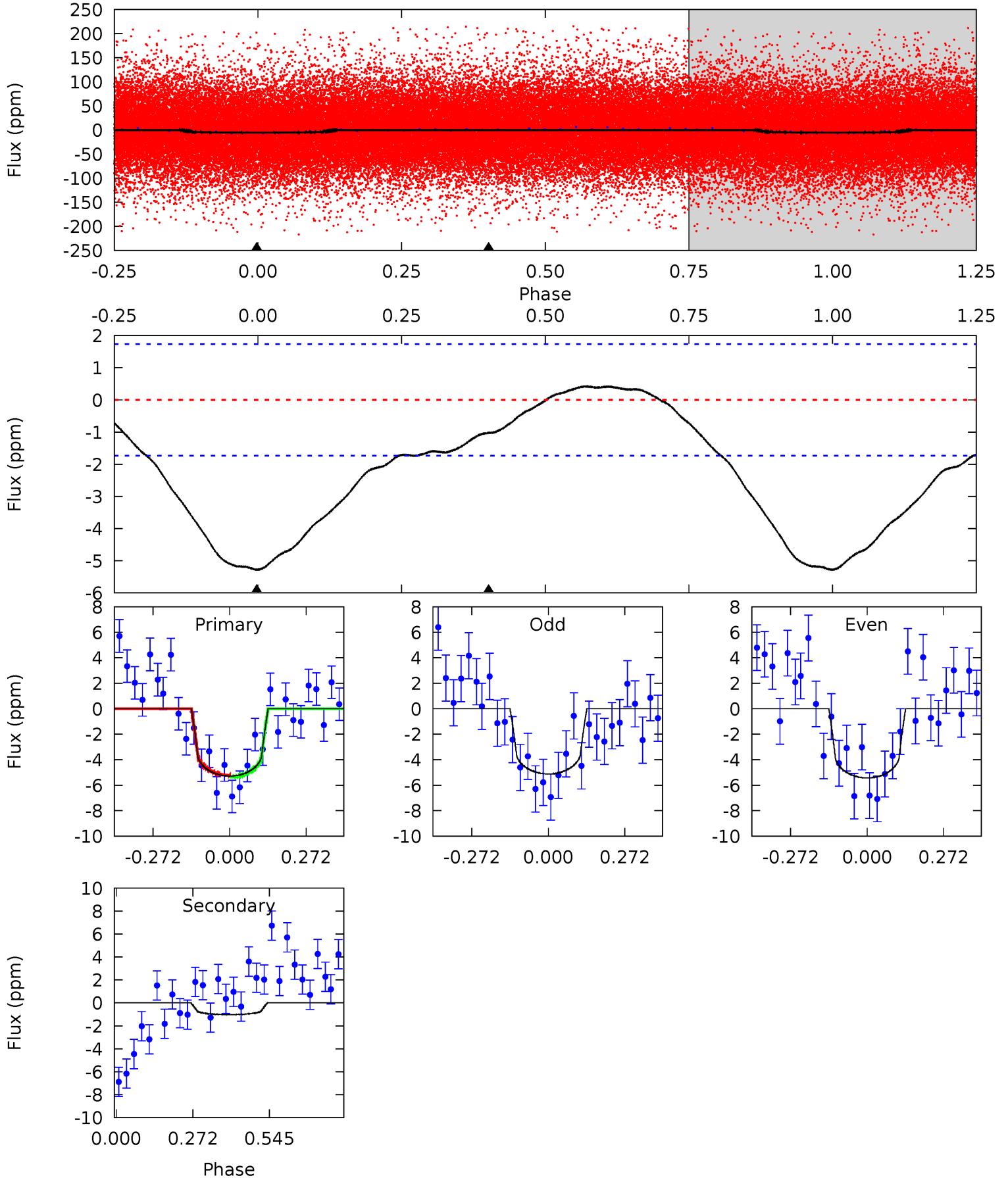
TCE 007907983-01 P= 0.839882 Days $T_0=132.211863$ (BKJD)



DV Model-Shift Uniqueness Test

007907983-01, P = 0.839841 Days, E = 131.404408 Days

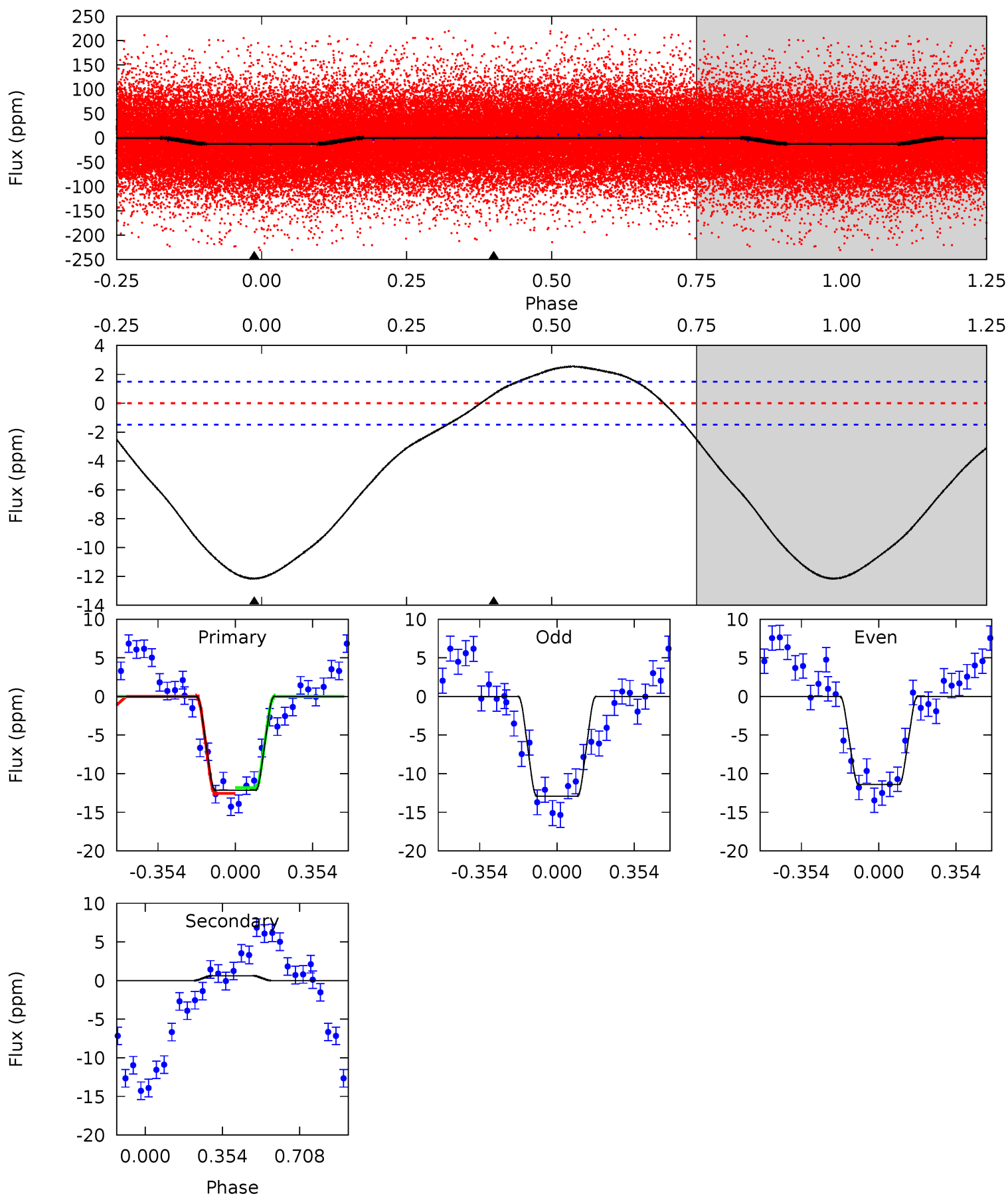
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	2.58	0	0	4.35	1.10	0.82	13.3	13.3	2.58	2.58	0.39	0.97	0.07	0.16



Alt Model-Shift Uniqueness Test

007907983-01, P = 0.839882 Days, E = 131.371981 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.1	-1.80	0	0	4.29	0.93	3.21	35.1	35.1	-1.80	-1.80	2.19	0.90	0.17	1.04



Stellar Parameters For KIC 007907983

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8600^{+236}_{-406}	$4.108^{+0.140}_{-0.154}$	$0.070^{+0.250}_{-0.550}$	$2.071^{+0.490}_{-0.490}$	$2.005^{+0.356}_{-0.435}$	$0.318^{+0.239}_{-0.137}$
	+3%/-5%	+3%/-4%	+357%/-786%	+24%/-24%	+18%/-22%	+75%/-43%
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 007907983-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1 ± 0	$0.46^{+0.19}_{-0.18}$	5148^{+343}_{-339}	5395^{+1847}_{-1210}	$1.258^{+2.260}_{-0.714}$
Alt.	1 ± 0	$0.87^{+0.21}_{-0.19}$	5135^{+339}_{-335}	-4761^{+325}_{-375}	$-0.206^{+0.124}_{-0.196}$

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 $A_{obs} \gg 1.0$

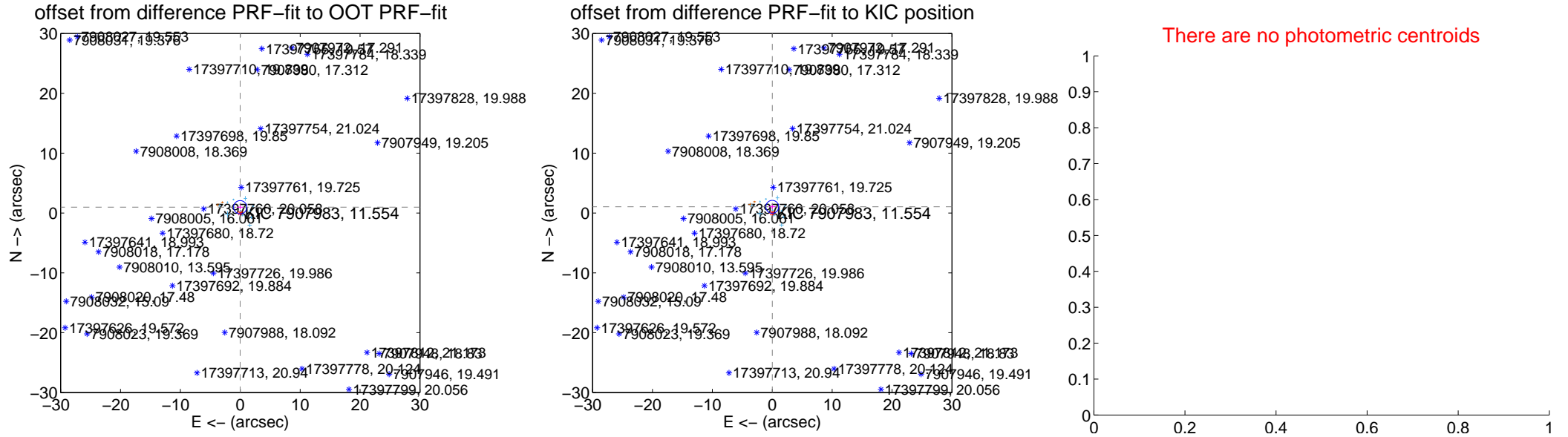
DV Centroid Data

Supplemental centroid analysis for 007907983-01. **Kepler magnitude: 11.55.** Transit SNR 8.98

There are 11 quarters with good PRF difference image offsets

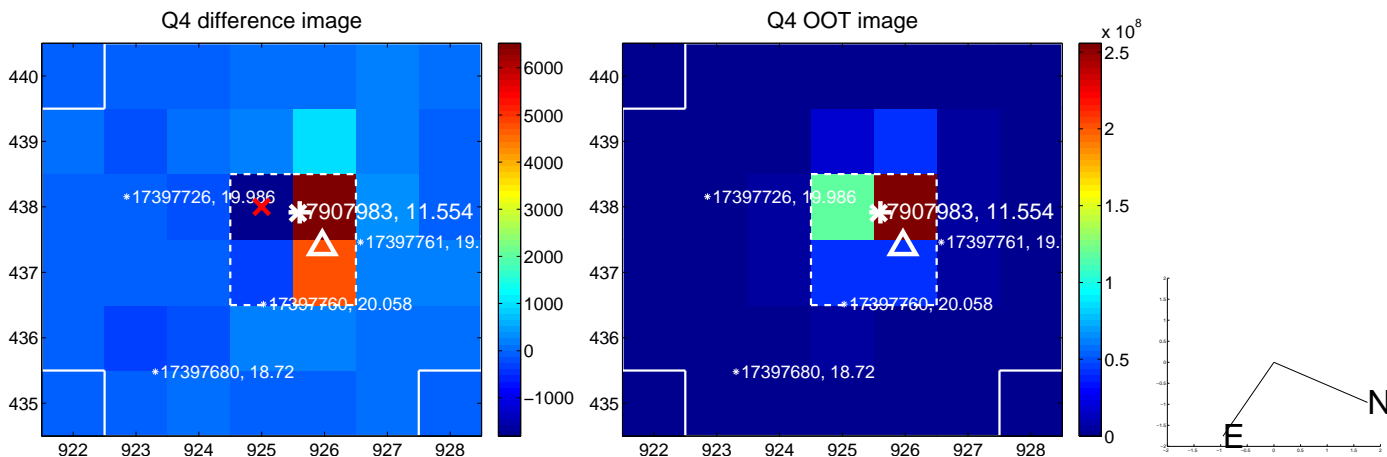
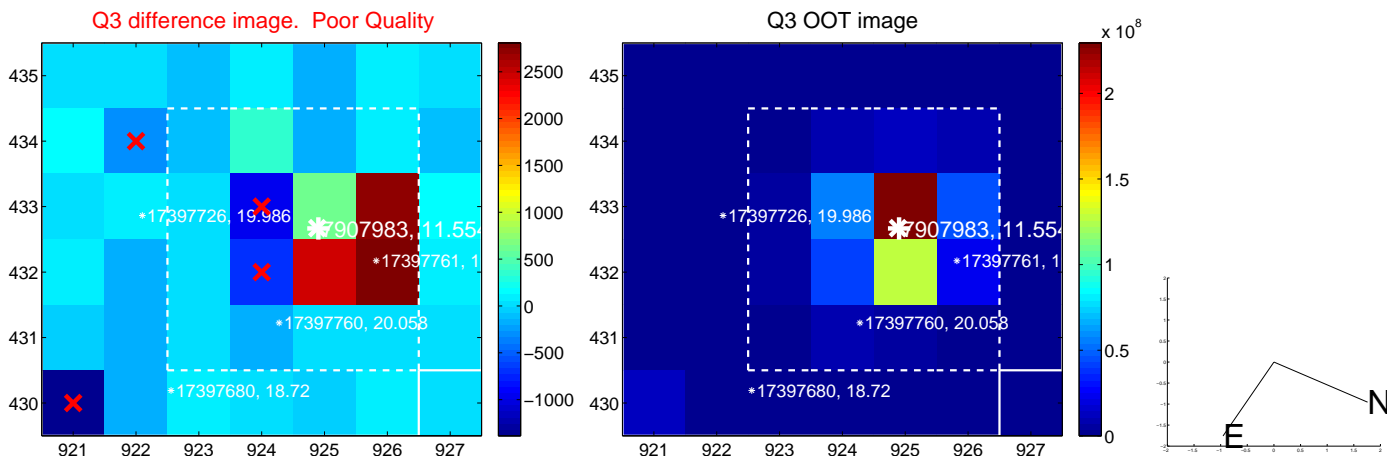
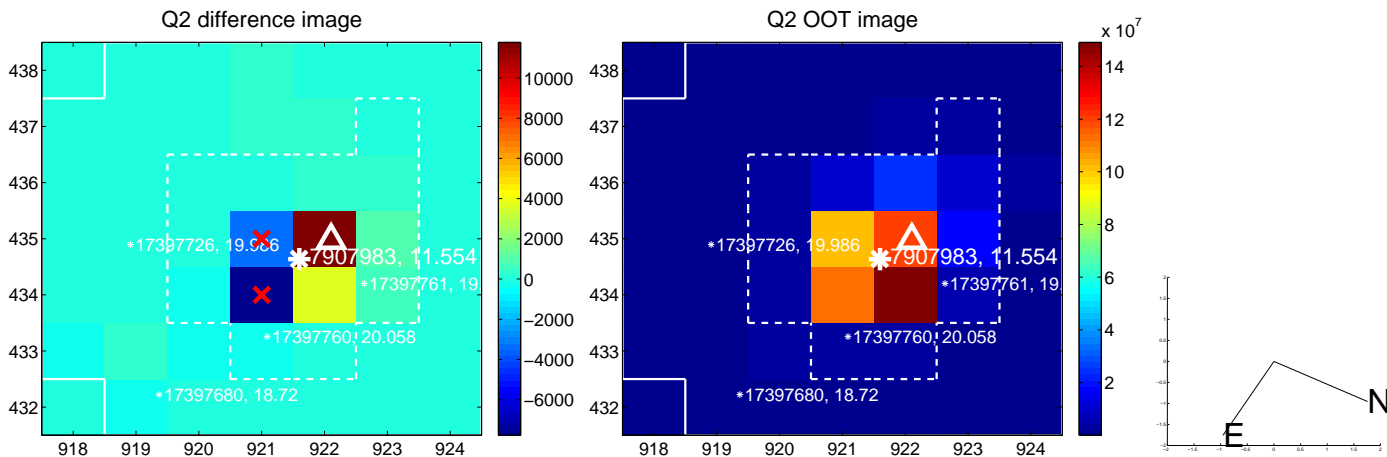
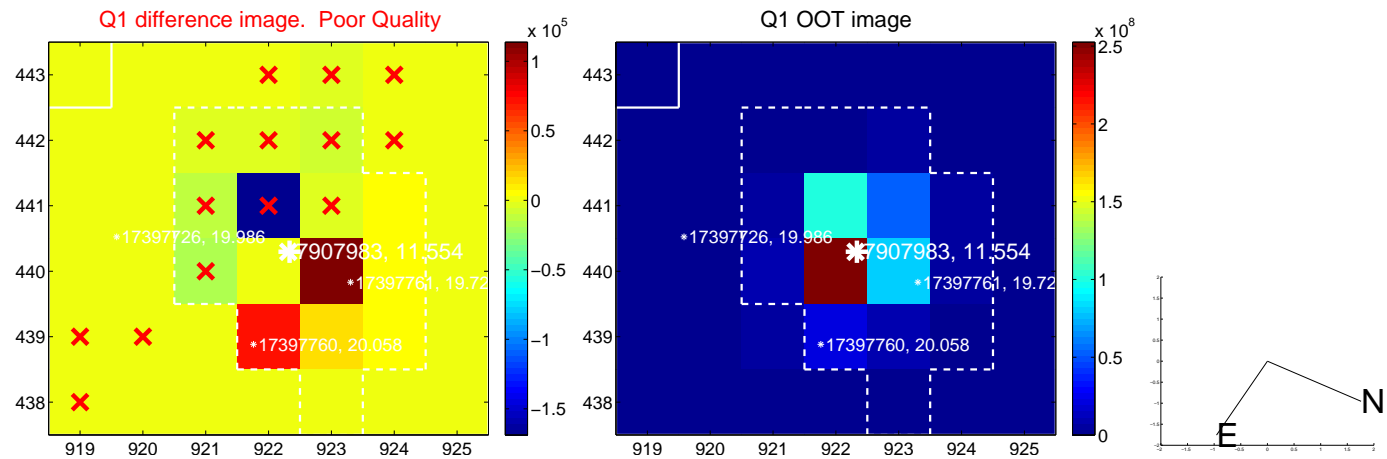
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.970 ± 0.368	2.63	0.018 ± 0.541	0.969 ± 0.364
PRF-fit source offset from KIC position	1.039 ± 0.358	2.91	-0.004 ± 0.558	1.039 ± 0.359
photometric centroid source offset	—	—	—	—

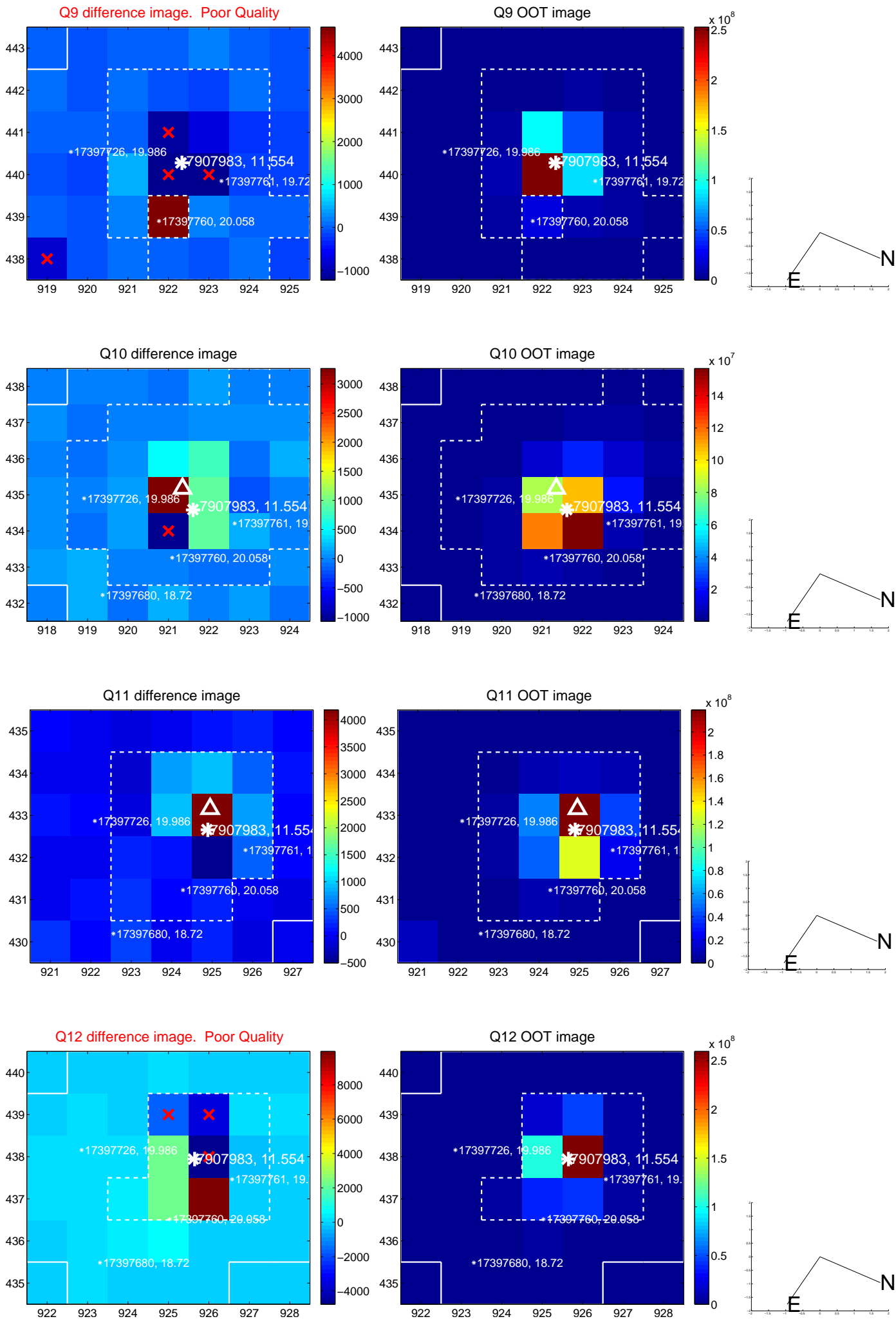


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

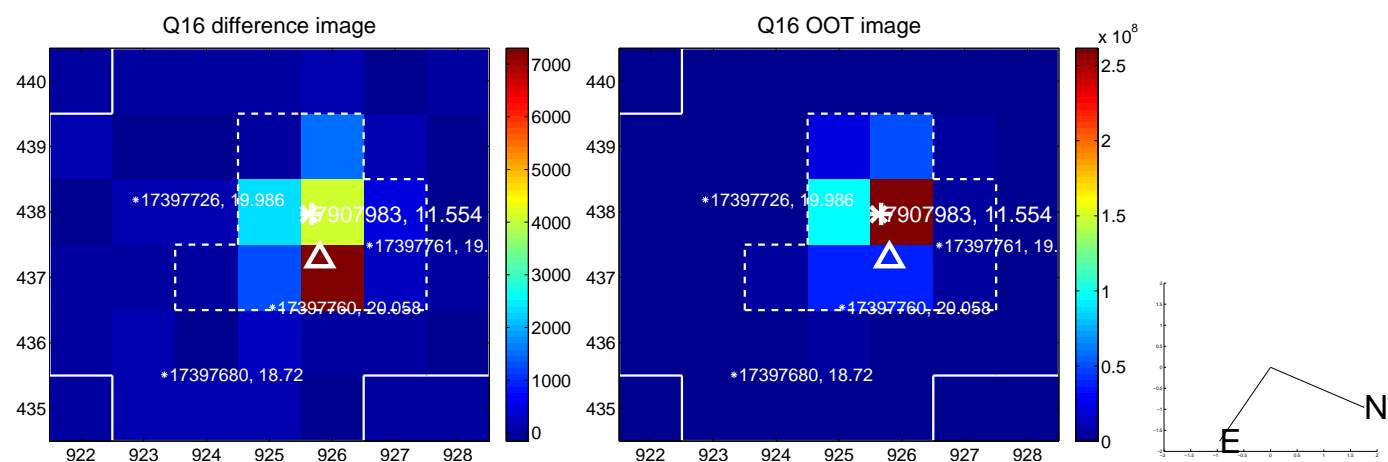
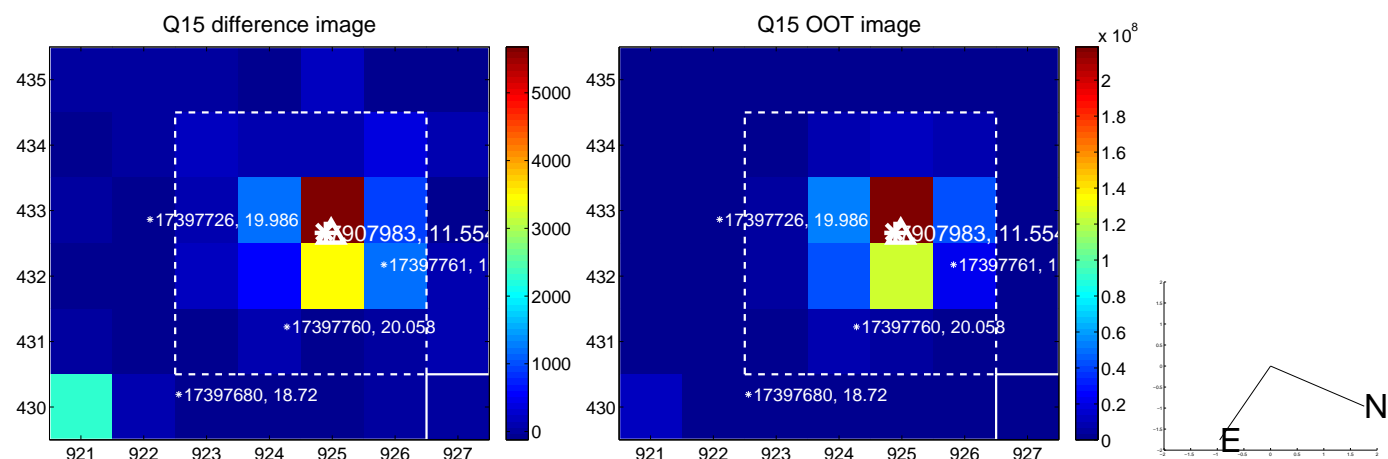
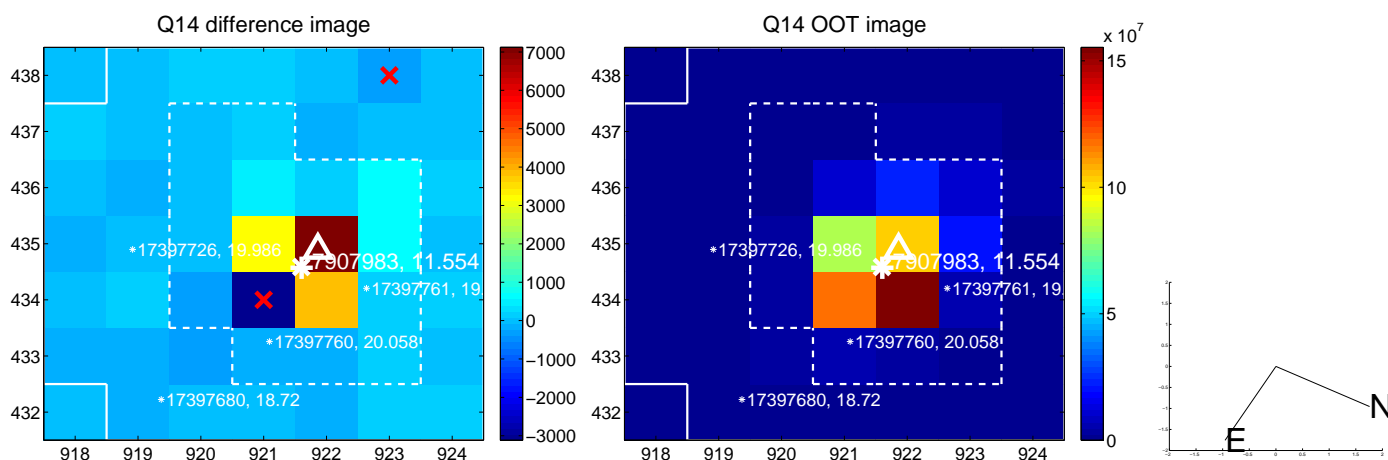
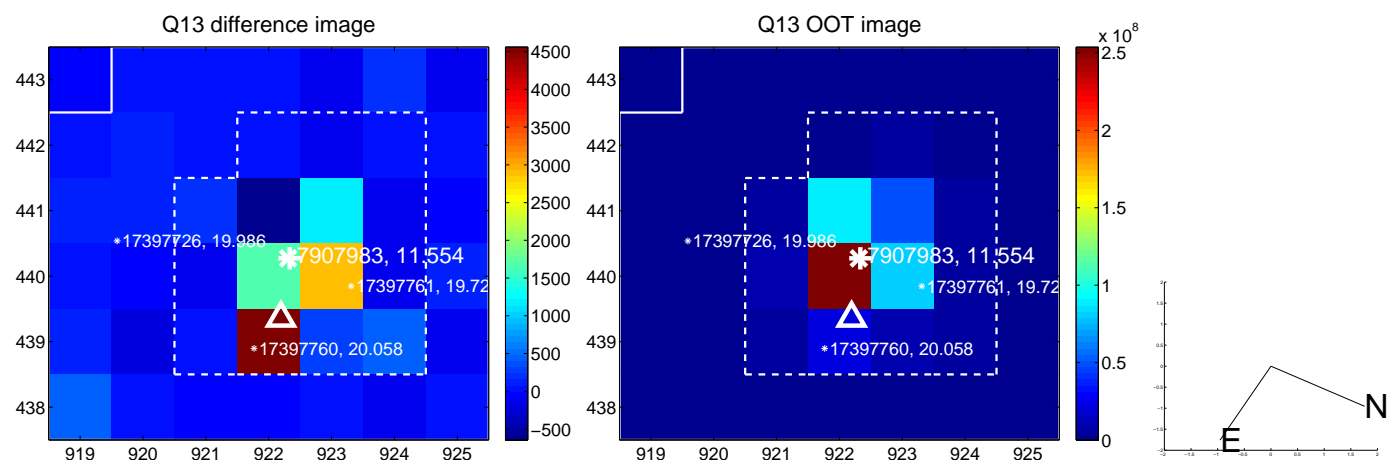
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



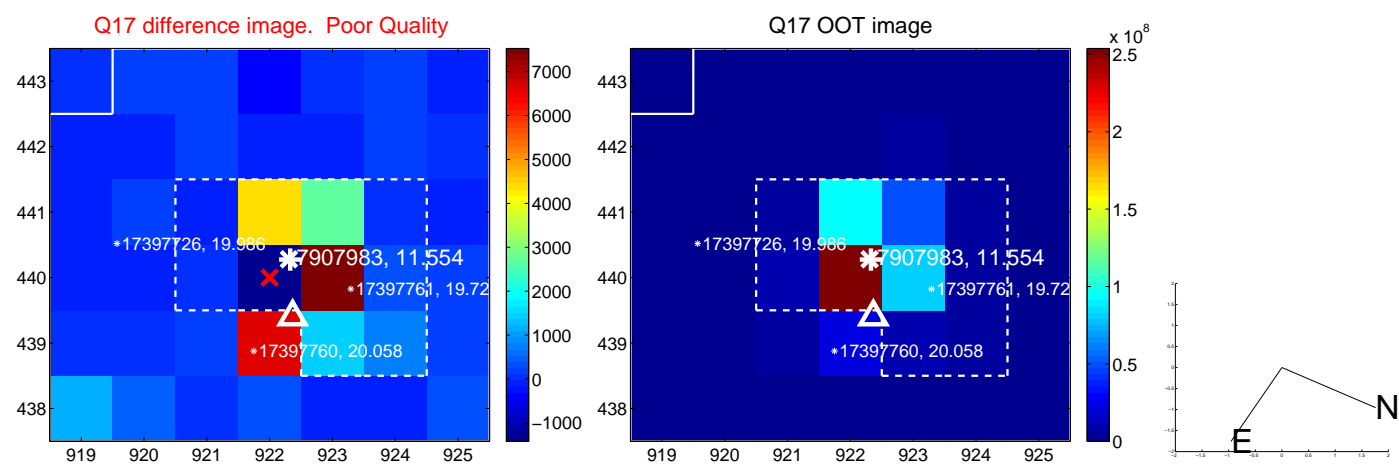
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



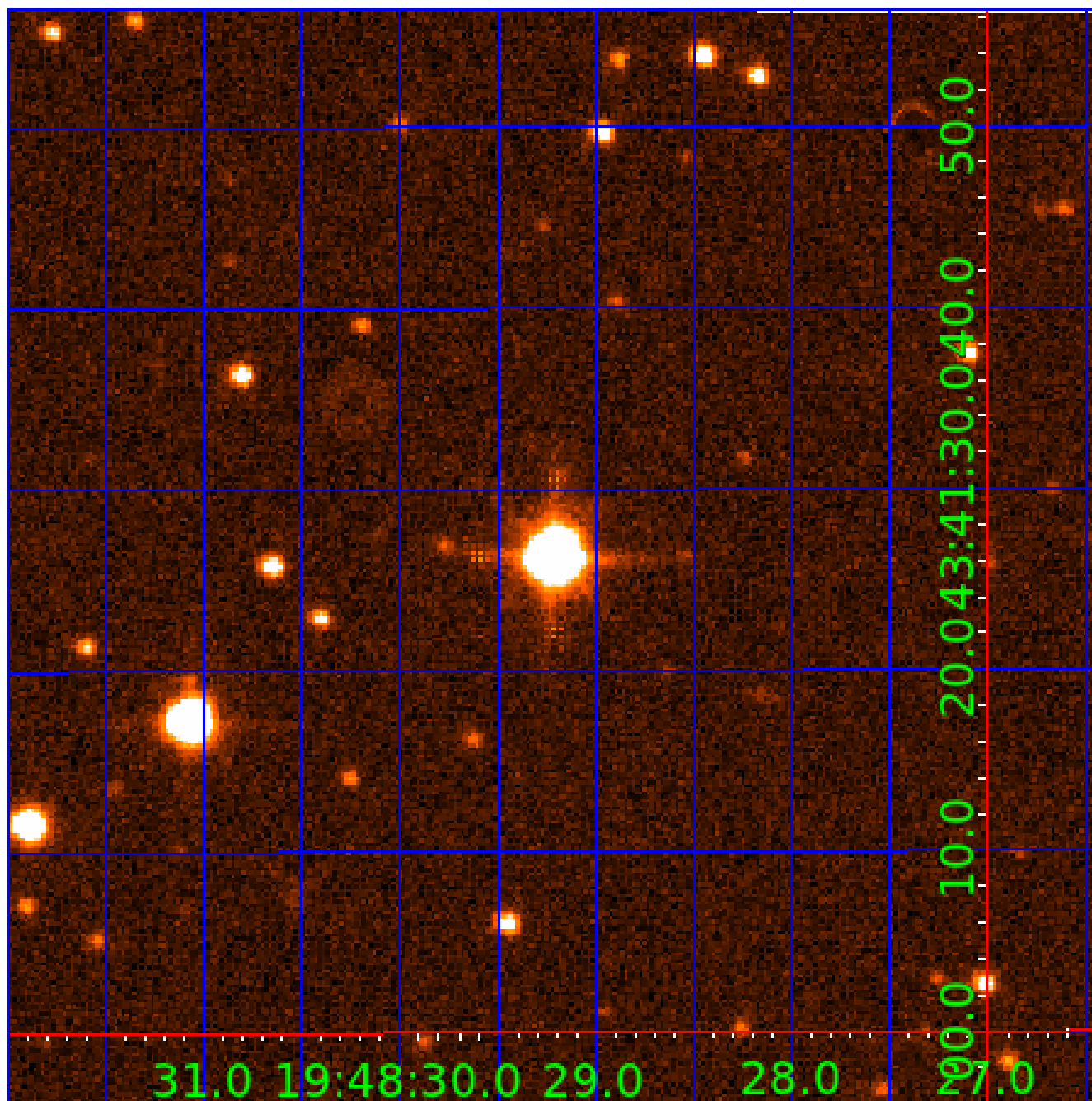
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 007907983

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})
007907983-01	OBS	No	0.839841	132.244249	4.7	5.047	8.5	9.0	2.07	8600	0.46	43525.65
007907983-02	OBS	No	79.171580	168.973569	104.5	2.855	10.5	8.4	2.07	8600	2.31	101.45
007907983-03	OBS	No	81.393449	187.804608	118.8	1.796	8.8	6.1	2.07	8600	2.62	97.77
007907983-04	OBS	No	483.788593	267.874492	73.2	4.591	8.1	7.5	2.07	8600	2.04	9.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007907983-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007907983-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007907983-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007907983-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

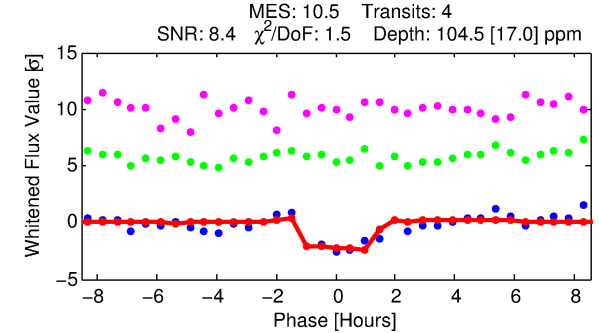
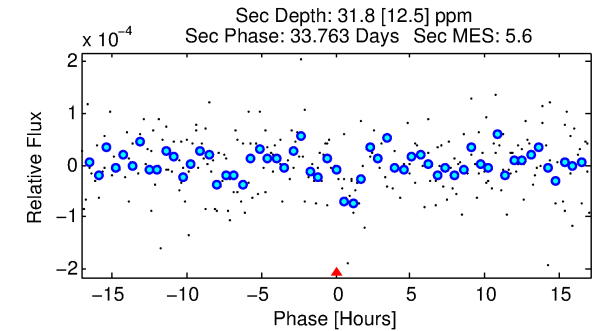
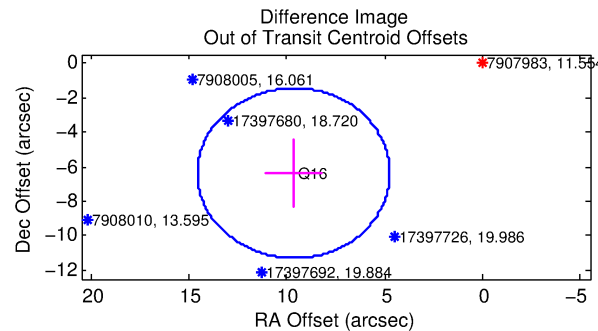
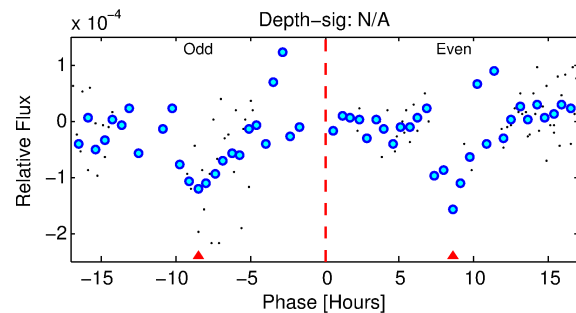
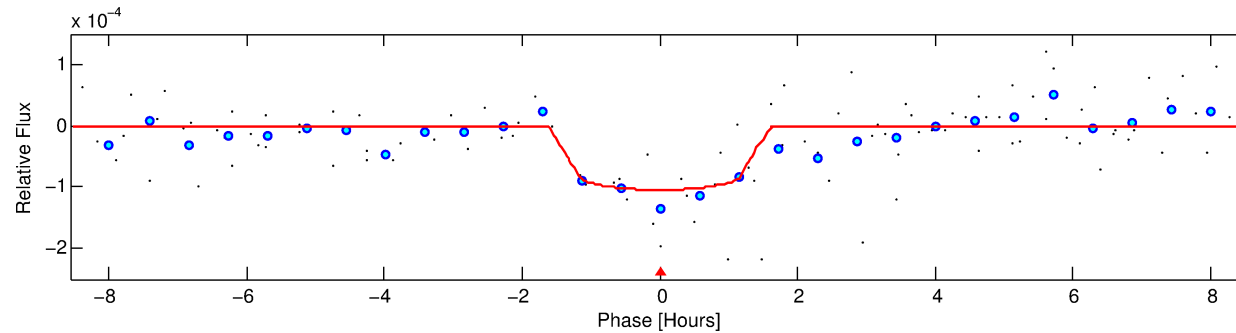
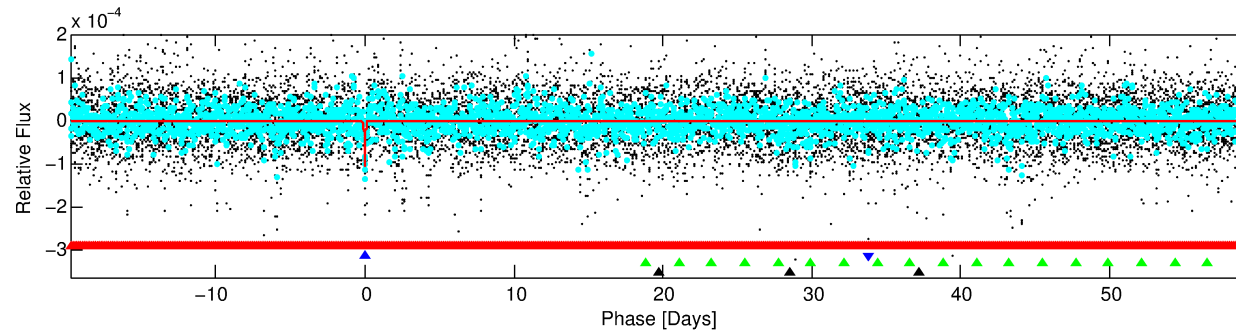
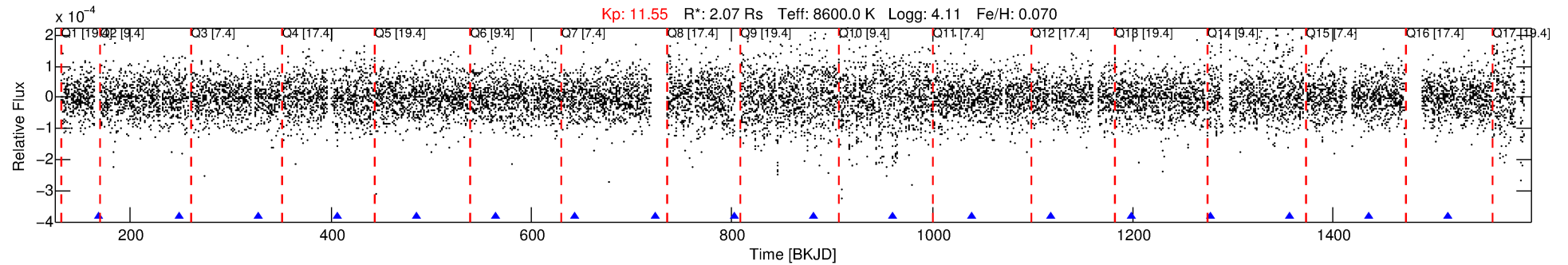
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007907983-02

No Significant Match Found

DV One-Page Summary

KIC: 7907983 Candidate: 2 of 4 Period: 79.172 d



DV Fit Results:

Period = 79.17158 [0.00137] d
Epoch = 168.9736 [0.0138] BKJD
Rp/R* = 0.0102 [0.0120]
a/R* = 140.93 [1045.75]
b = 0.76 [4.17]
Seff = 101.45 [34.62]
Teq = 809 [69] K
Rp = 2.31 [2.77] Re
a = 0.4552 [0.0897] AU
Ag = 681.41 [1635.50] [0.42σ]
Teff = 6393 [3821] K [1.46σ]

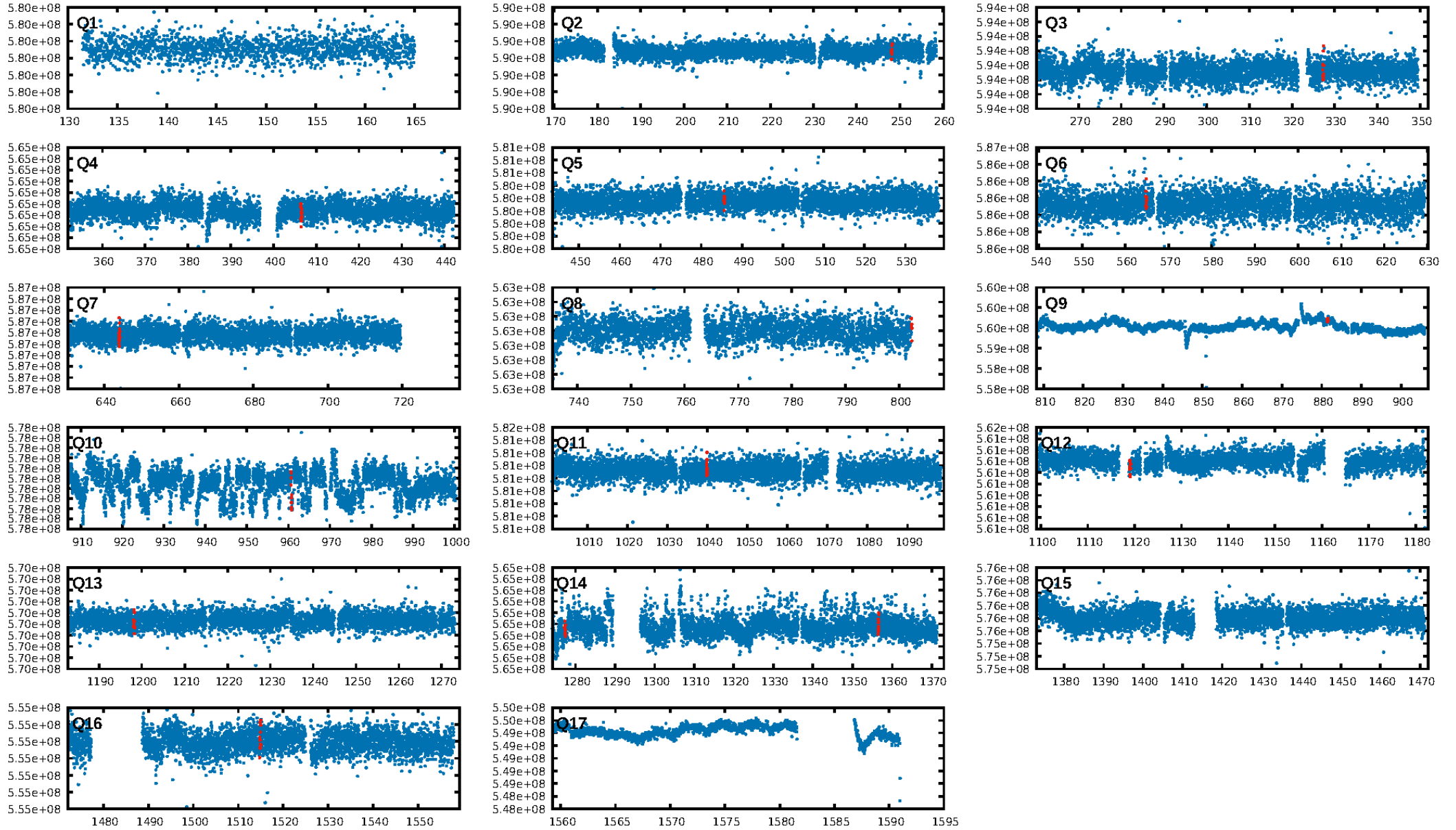
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [324.19σ]
LongPeriod-sig: 100.0% [15.81σ]
ModelChiSquare2-sig: 0.4%
ModelChiSquareGoF-sig: 76.3%
Bootstrap-pfa: 1.08e-13
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -2.849
Centroid-sig: 0.2%
Centroid-so: 1.515 arcsec [1.95σ]
OotOffset-rm: 11.568 arcsec [7.05σ]
KicOffset-rm: 11.411 arcsec [6.97σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.00 [0/11]

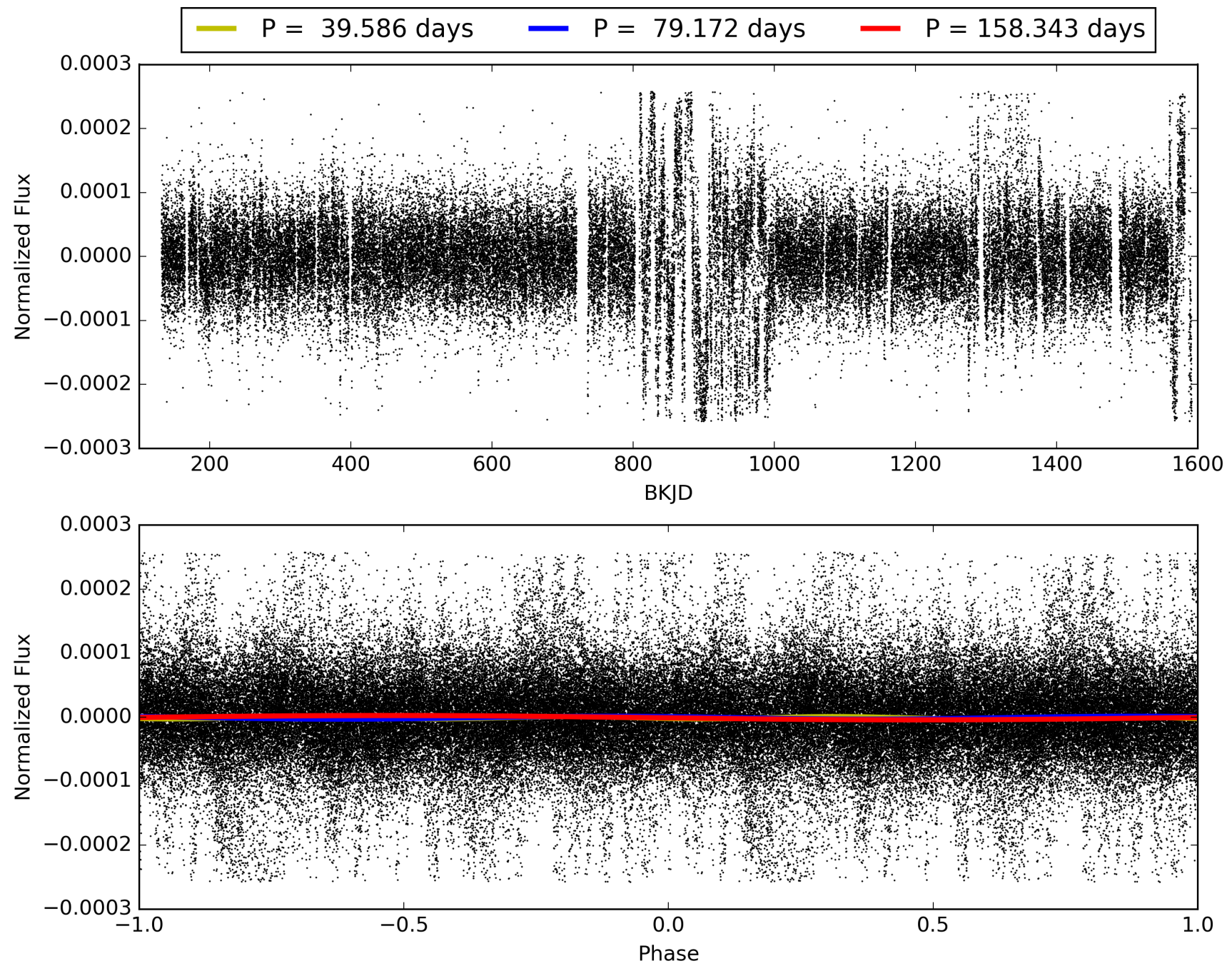
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:11:46 Z

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

TCE 007907983-02, PDC Light Curves

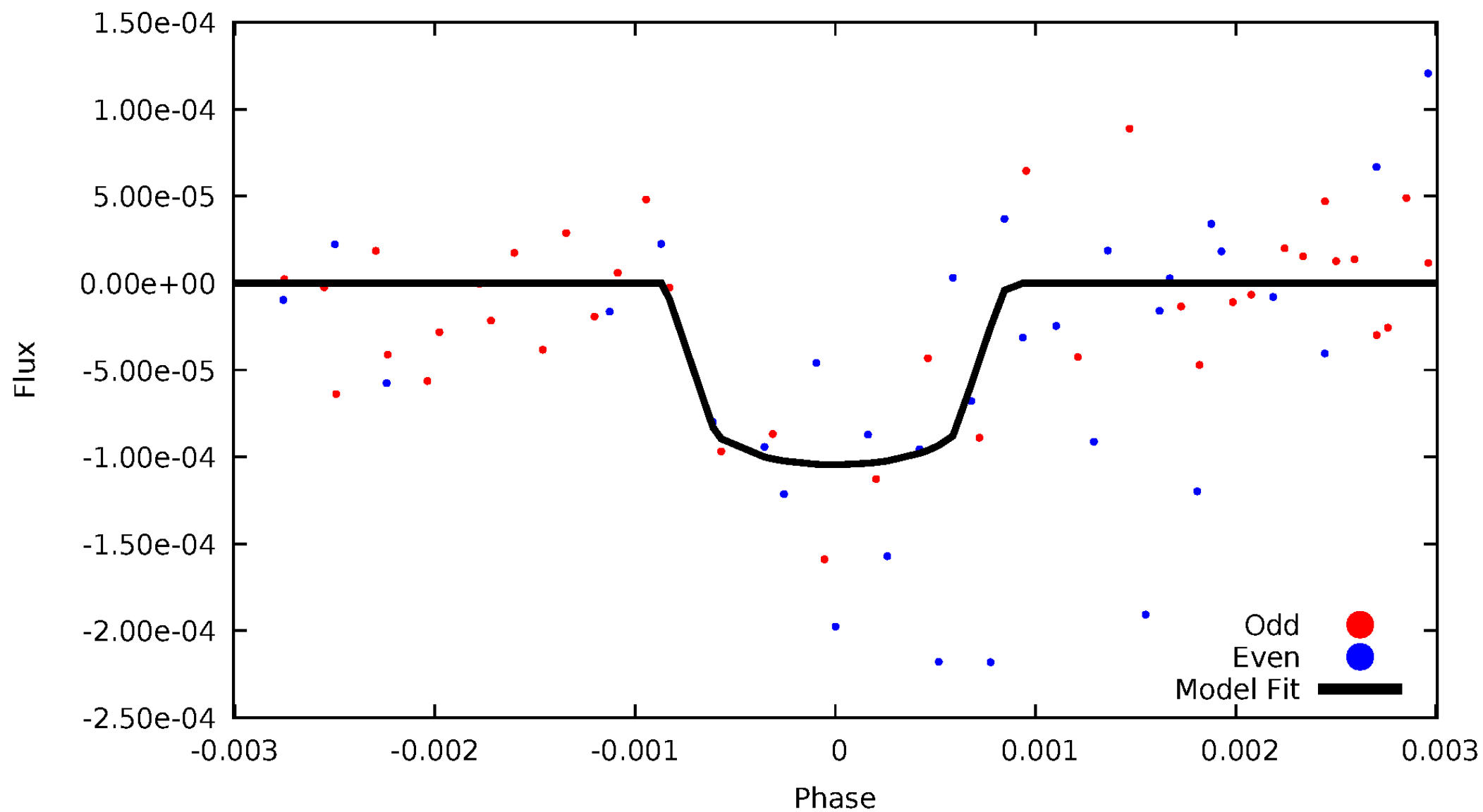


TCE 007907983-02



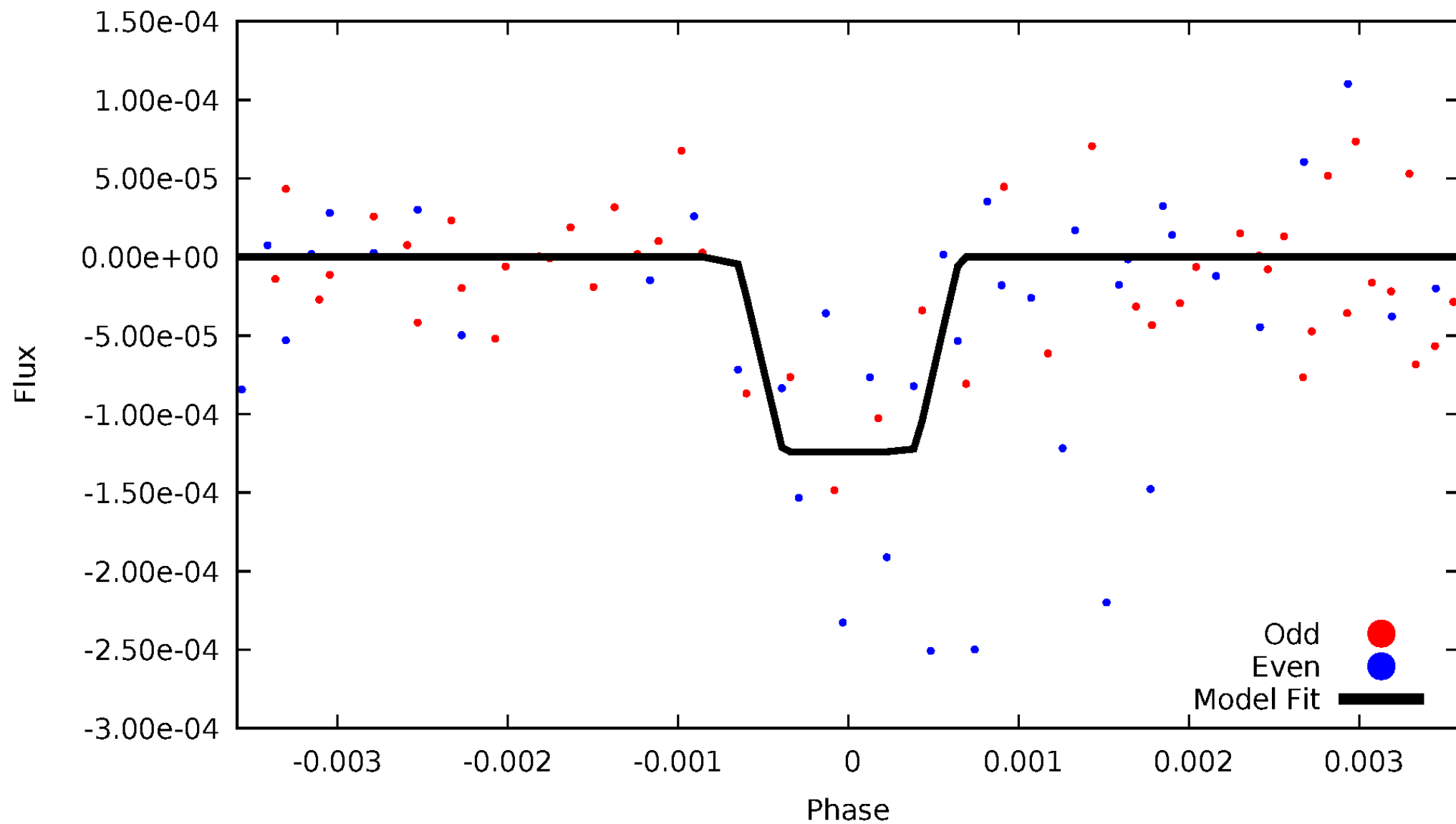
DV Odd/Even

TCE 007907983-02



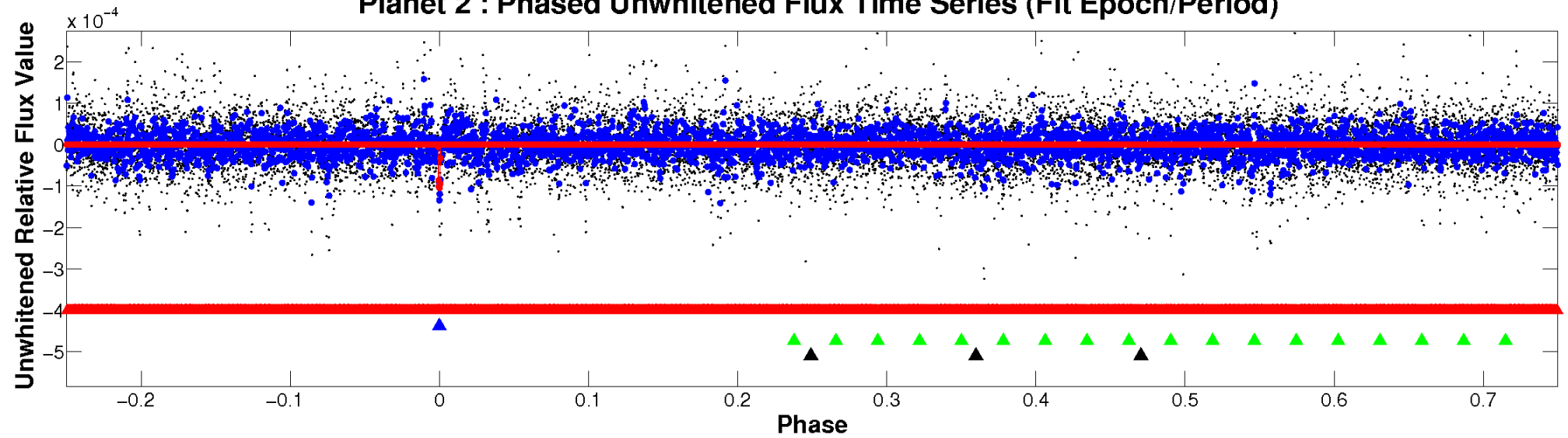
ALT Odd/Even

TCE 007907983-02

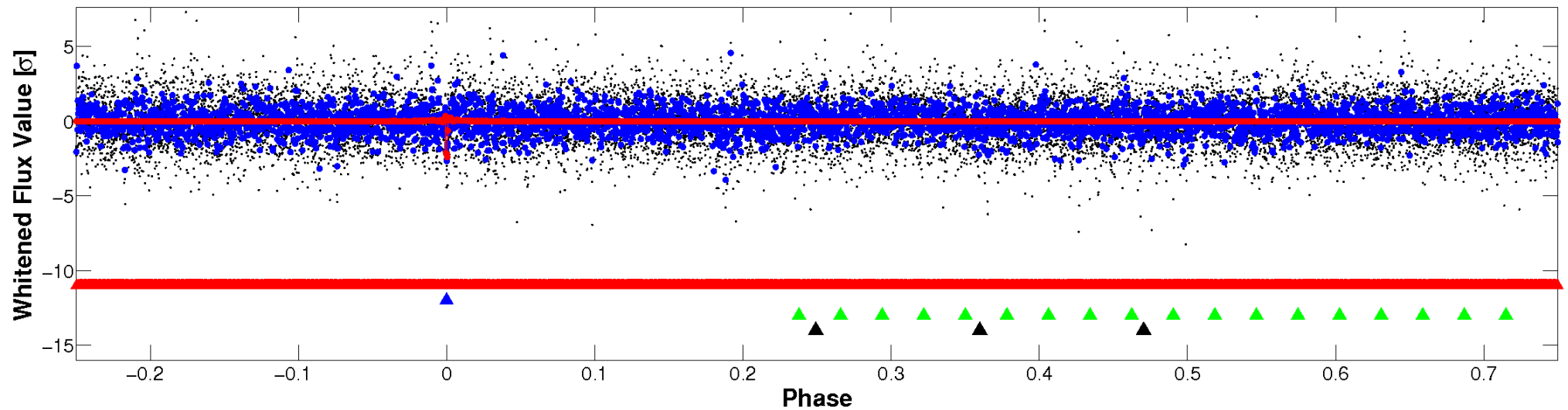


Non-Whitened Vs. Whitened Light Curve

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

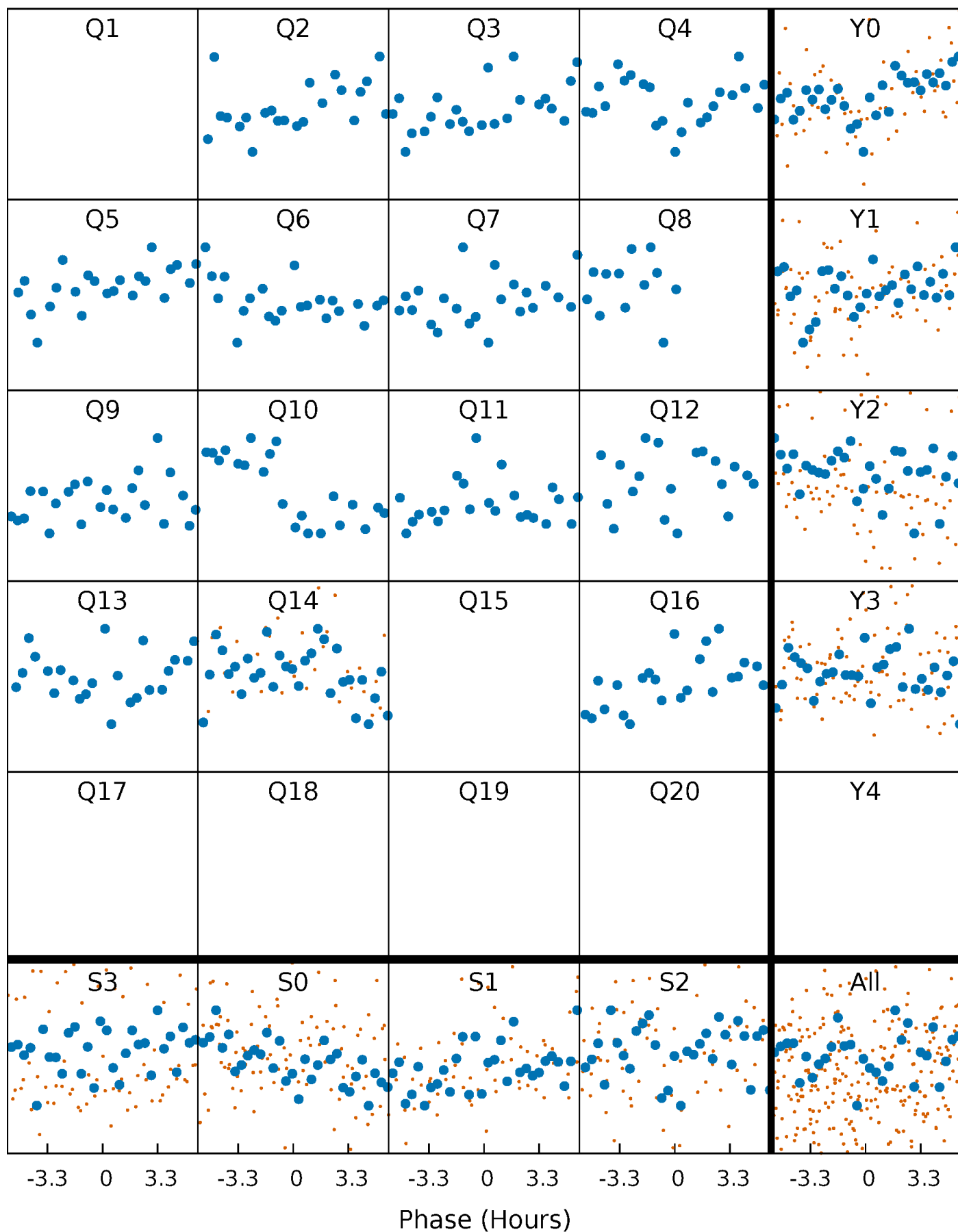


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



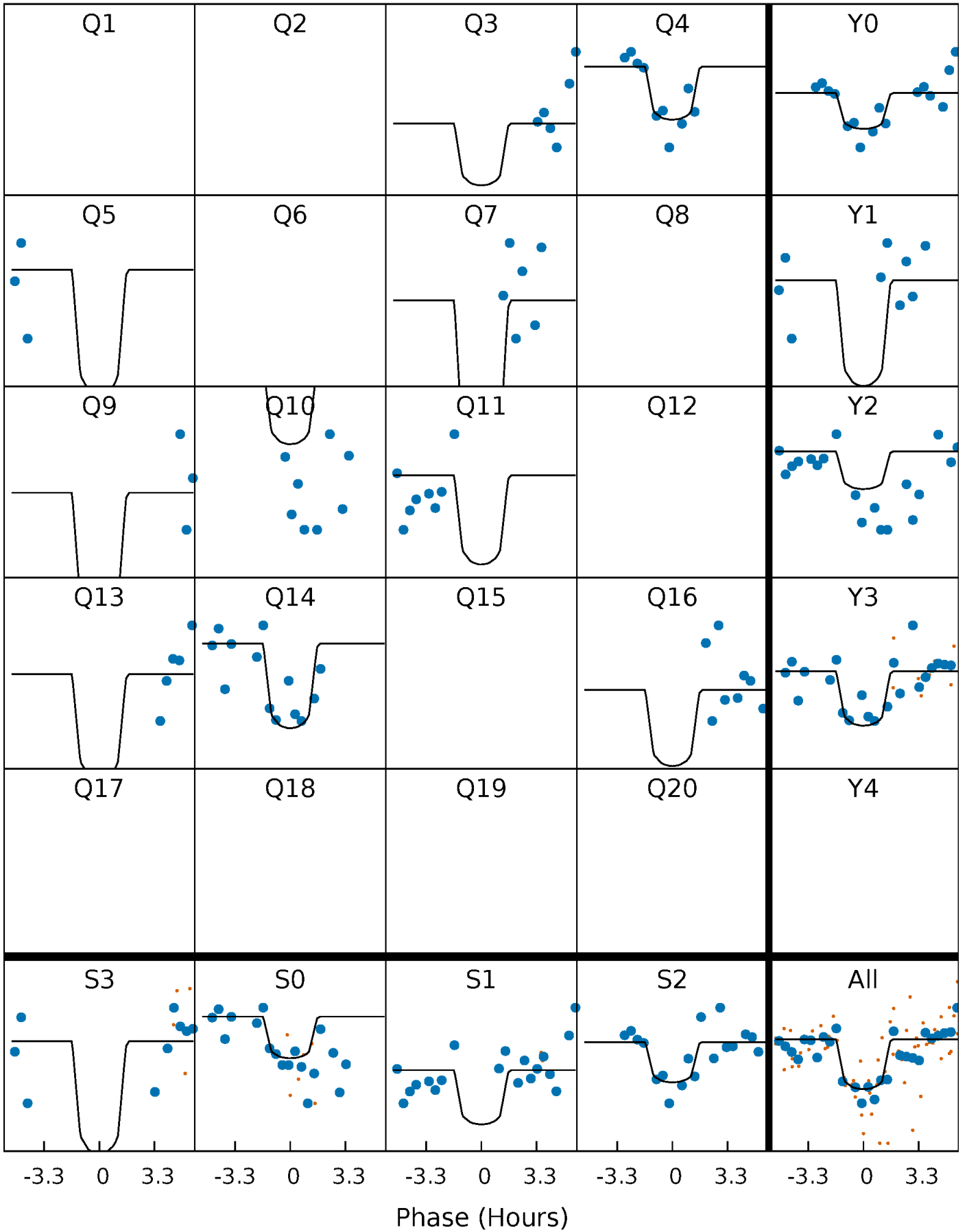
PDC Quarter-Phased Transit Curves

TCE 007907983-02 P= 79.171580 Days $T_0=168.973569$ (BKJD)



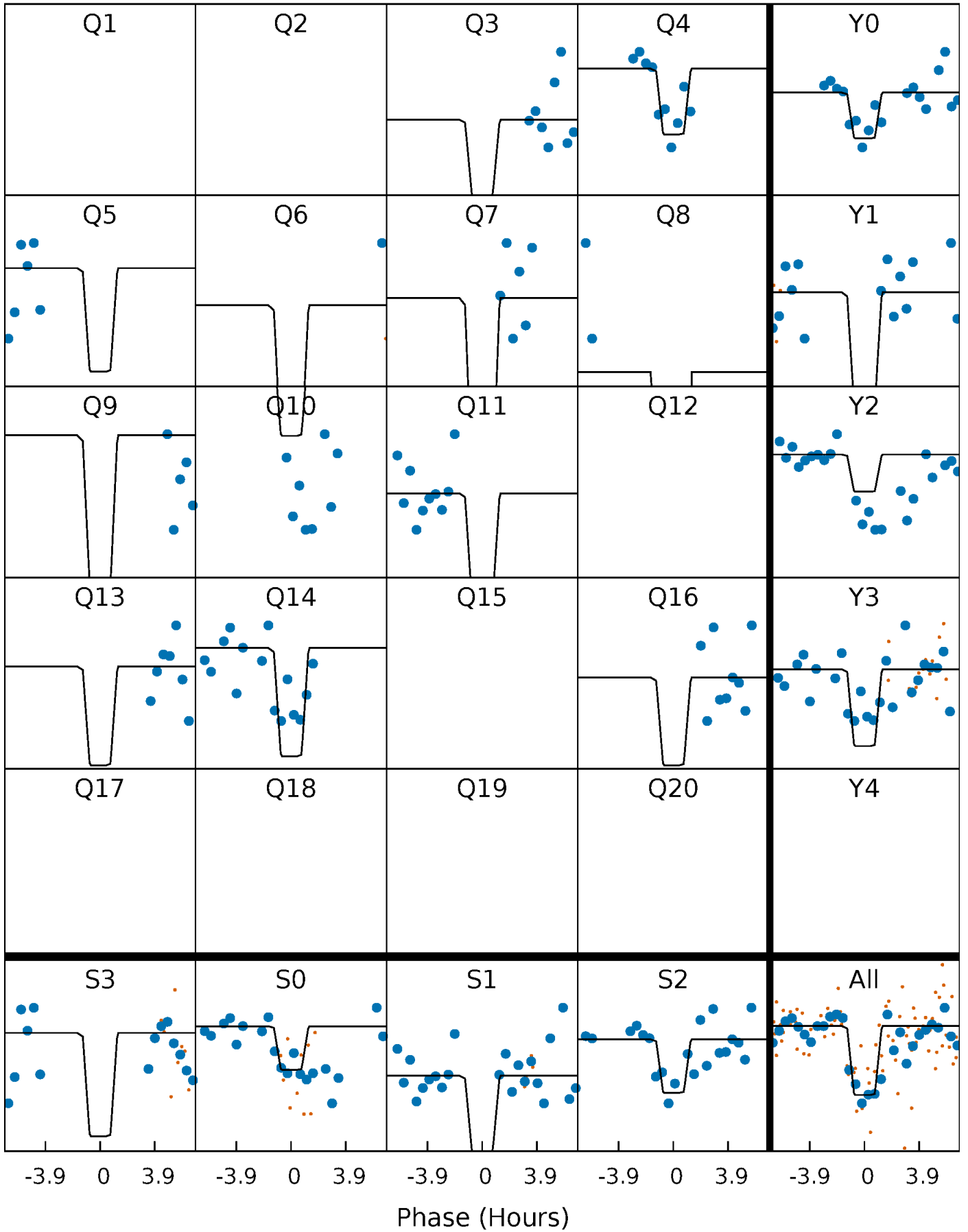
DV Quarter-Phased Transit Curves

TCE 007907983-02 P= 79.171580 Days $T_0=168.973569$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

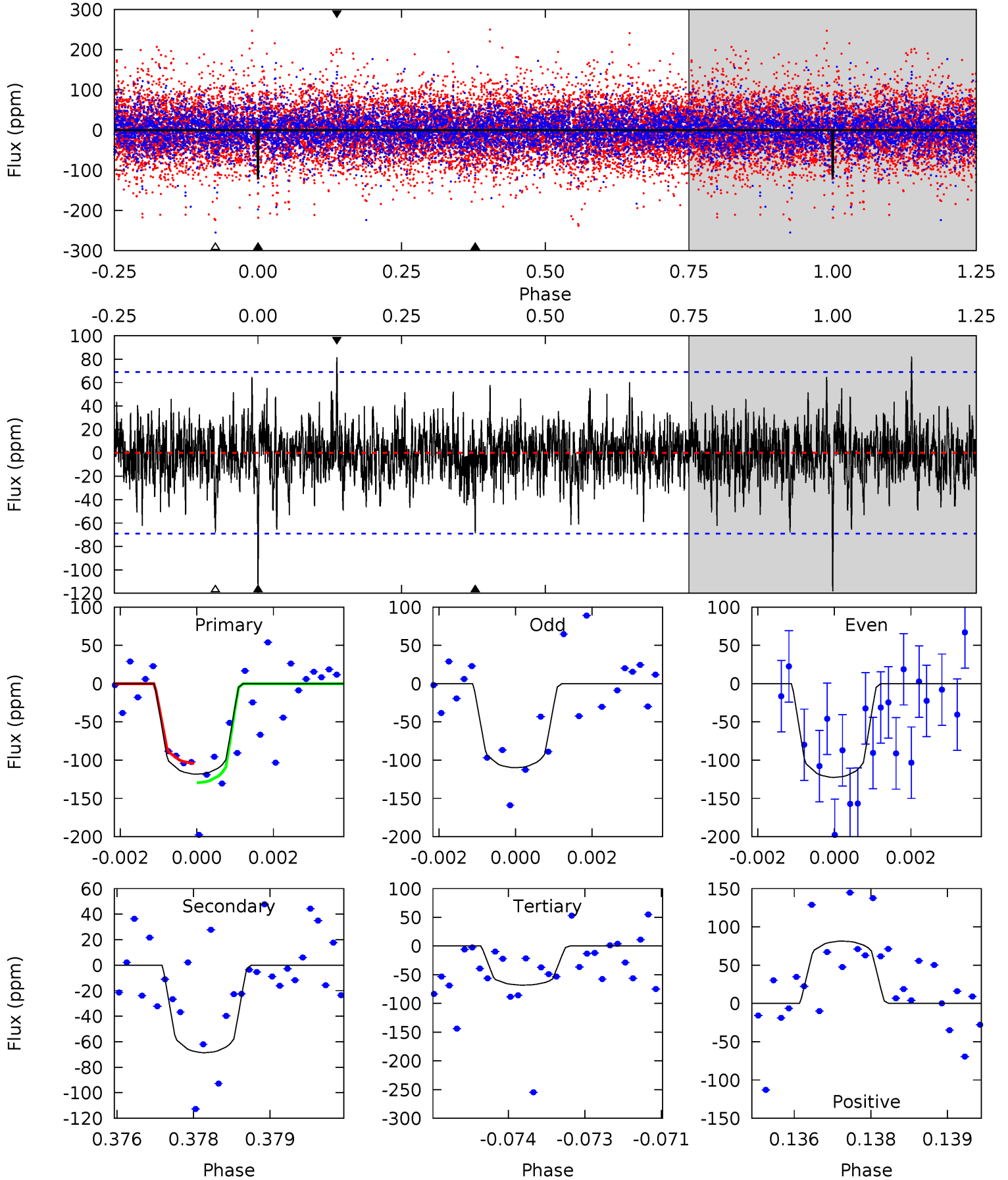
TCE 007907983-02 P= 79.171638 Days $T_0=168.975665$ (BKJD)



DV Model-Shift Uniqueness Test

007907983-02, P = 79.171580 Days, E = 89.801989 Days

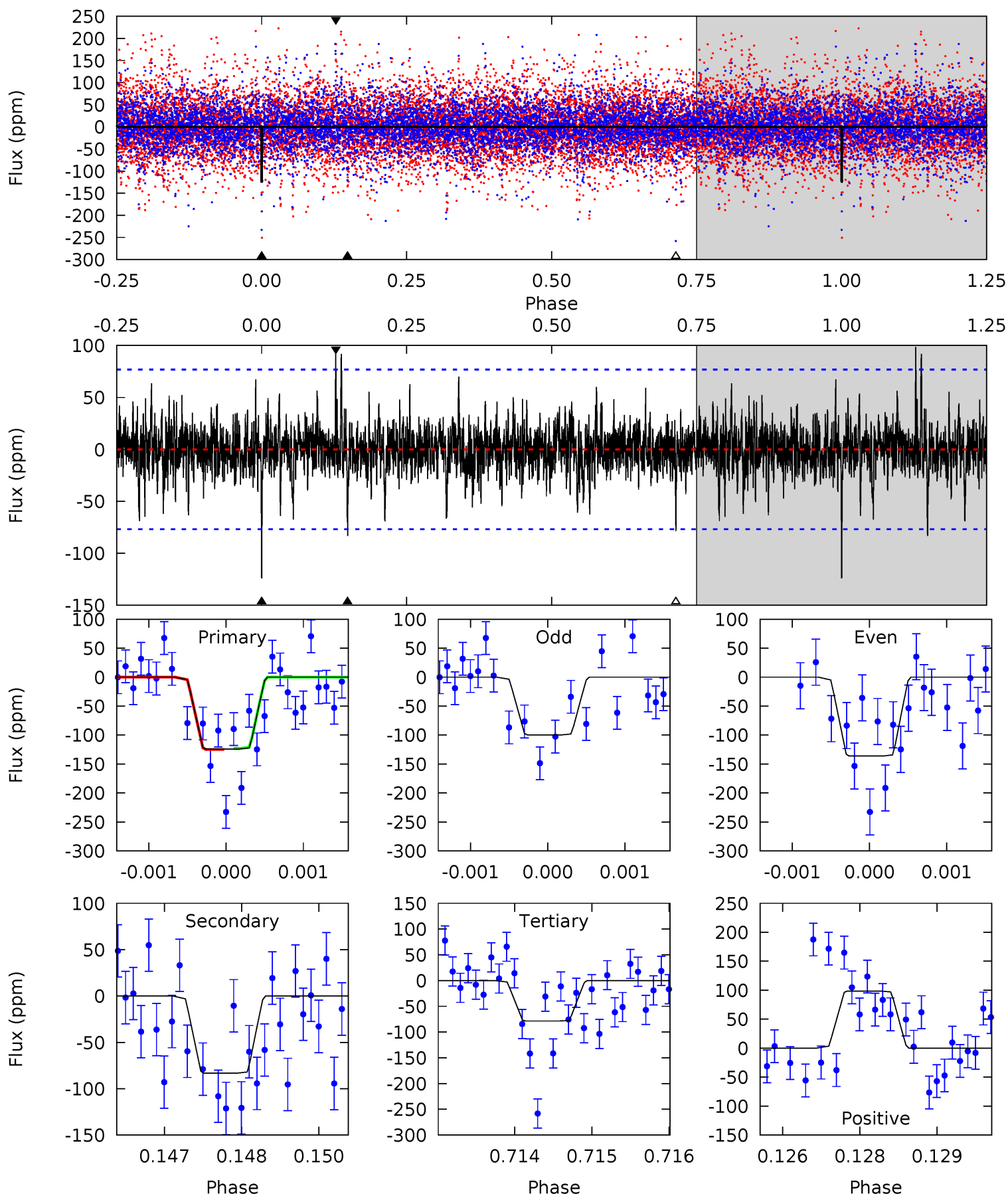
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.20	5.34	5.30	6.34	5.37	3.17	1.33	3.91	2.86	0.04	-1.00	0.46	0.97	0.41	0.94



Alt Model-Shift Uniqueness Test

007907983-02, P = 79.171638 Days, E = 89.804027 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.73	5.86	5.54	6.94	5.41	3.22	1.27	3.20	1.80	0.32	-1.08	1.17	1.30	0.44	0.06



Stellar Parameters For KIC 007907983

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8600^{+236}_{-406}	$4.108^{+0.140}_{-0.154}$	$0.070^{+0.250}_{-0.550}$	$2.071^{+0.490}_{-0.490}$	$2.005^{+0.356}_{-0.435}$	$0.318^{+0.239}_{-0.137}$
	+3%/-5%	+3%/-4%	+357%/-786%	+24%/-24%	+18%/-22%	+75%/-43%
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 007907983-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-69 ± 13	$3.18^{+2.56}_{-2.00}$	1133^{+72}_{-79}	6260^{+5798}_{-1438}	777^{+4875}_{-542}
Alt.	-83 ± 14	$3.06^{+2.67}_{-1.88}$	1131^{+80}_{-78}	6654^{+6037}_{-1631}	950^{+5476}_{-669}

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

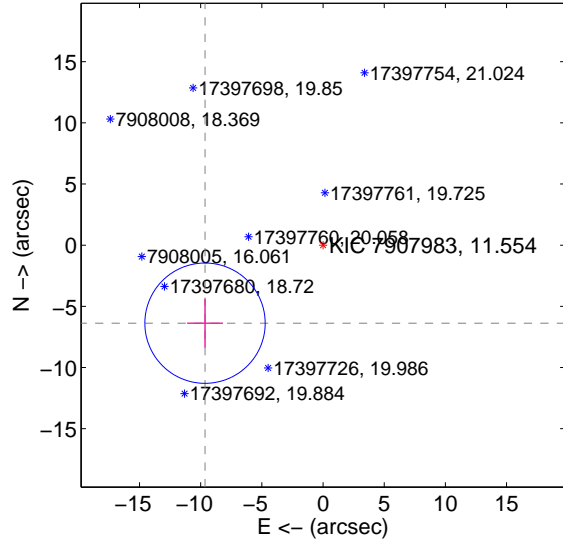
Supplemental centroid analysis for 007907983-02. **Kepler magnitude: 11.55.** Transit SNR 8.39

There are 0 quarters with good PRF difference image offsets

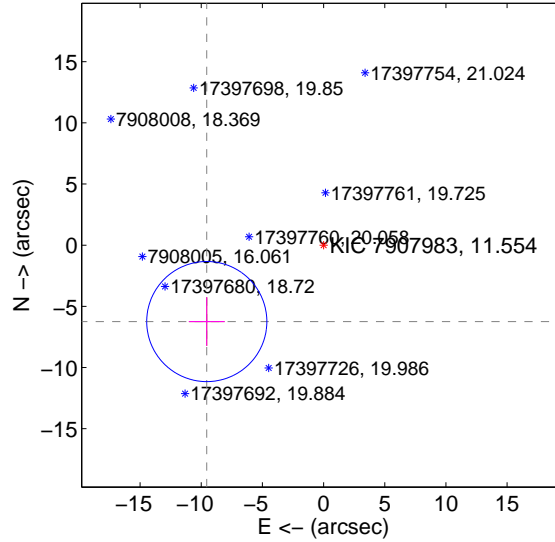
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	11.568 \pm 1.640	7.05	9.650 \pm 1.461	-6.379 \pm 1.988
PRF-fit source offset from KIC position	11.411 \pm 1.637	6.97	9.551 \pm 1.461	-6.246 \pm 1.988
photometric centroid source offset	1.52 \pm 0.78	1.95	-0.47 \pm 0.84	1.44 \pm 0.77

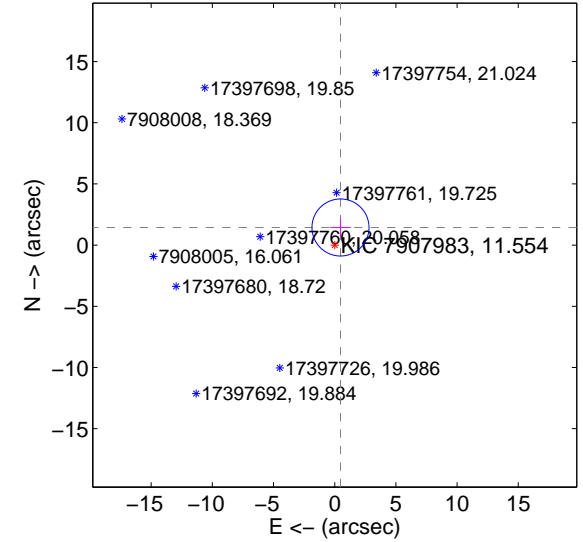
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

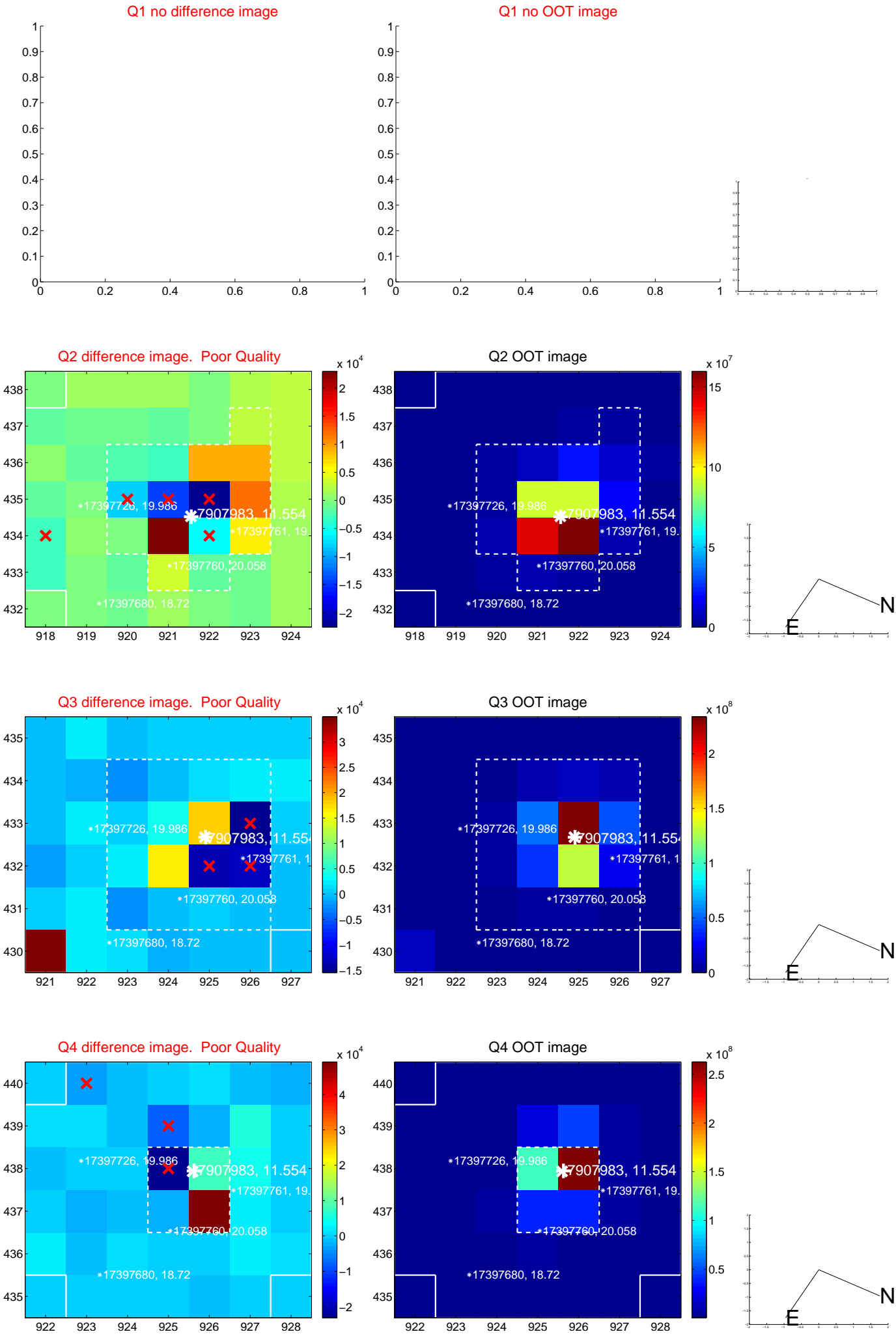


offset from photometric centroids

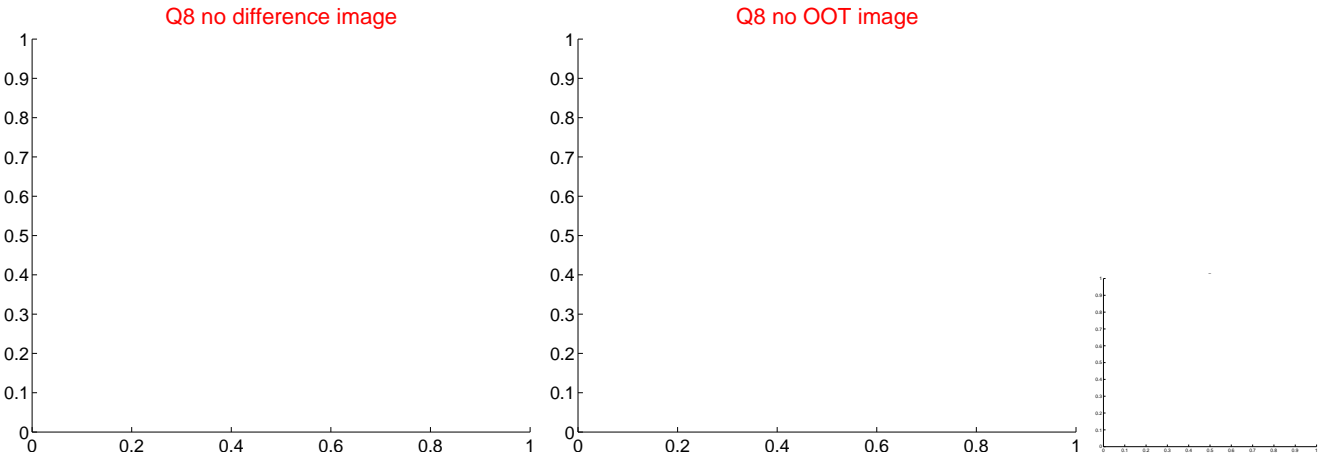
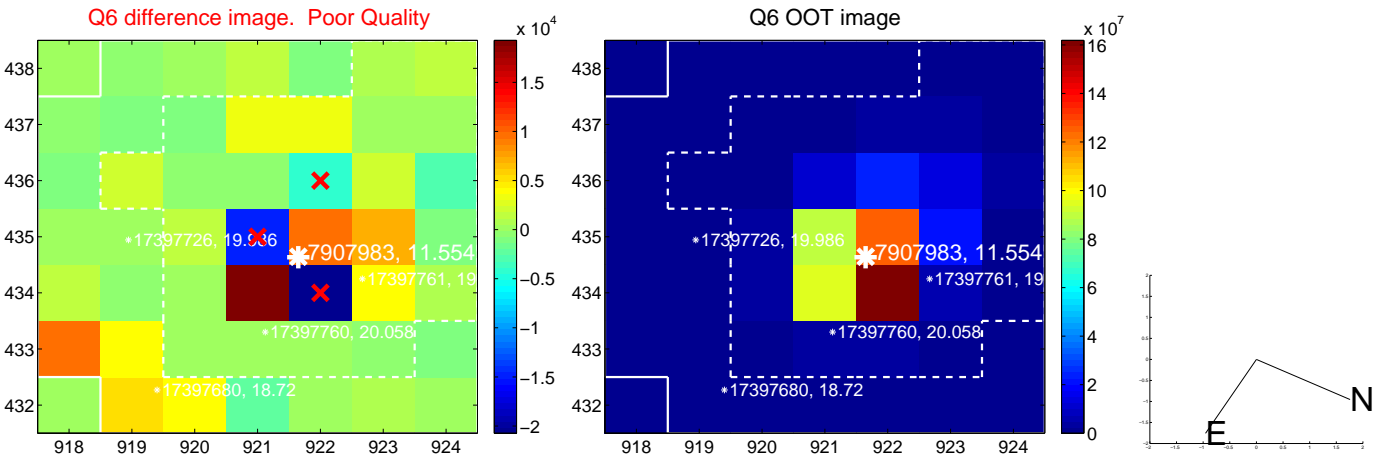
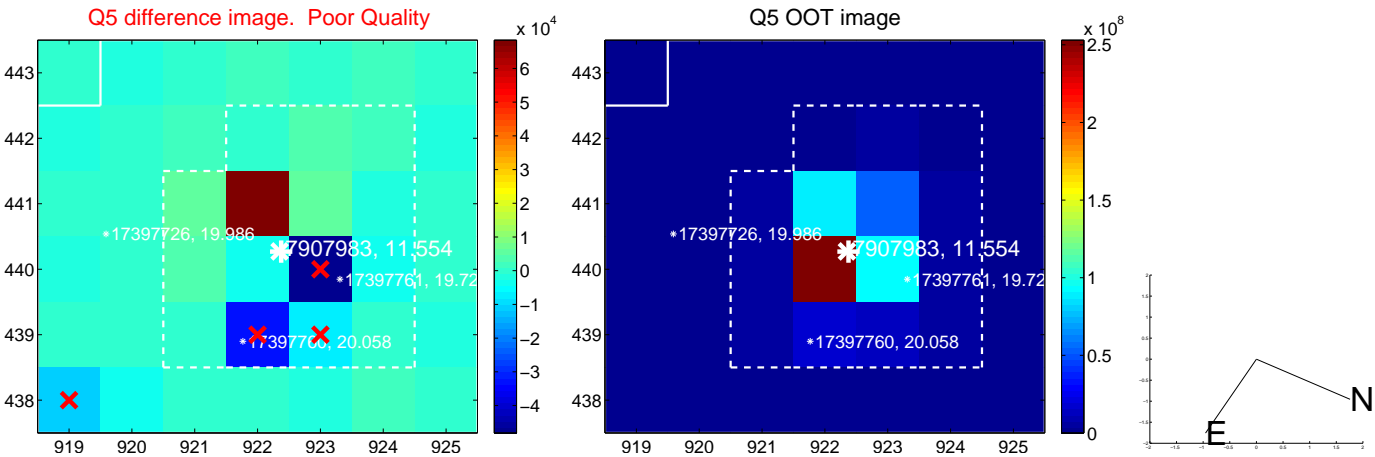


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

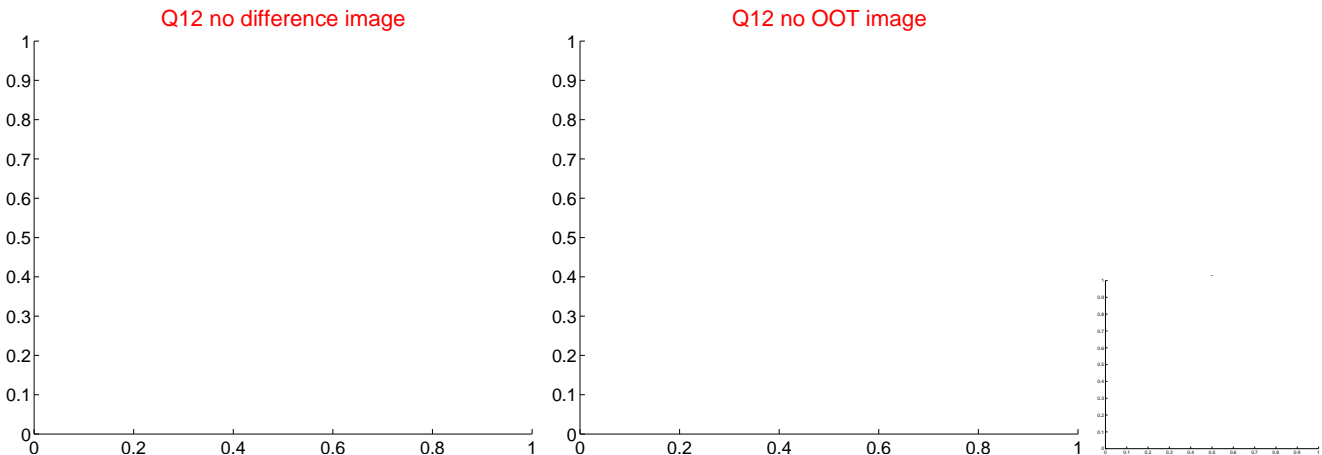
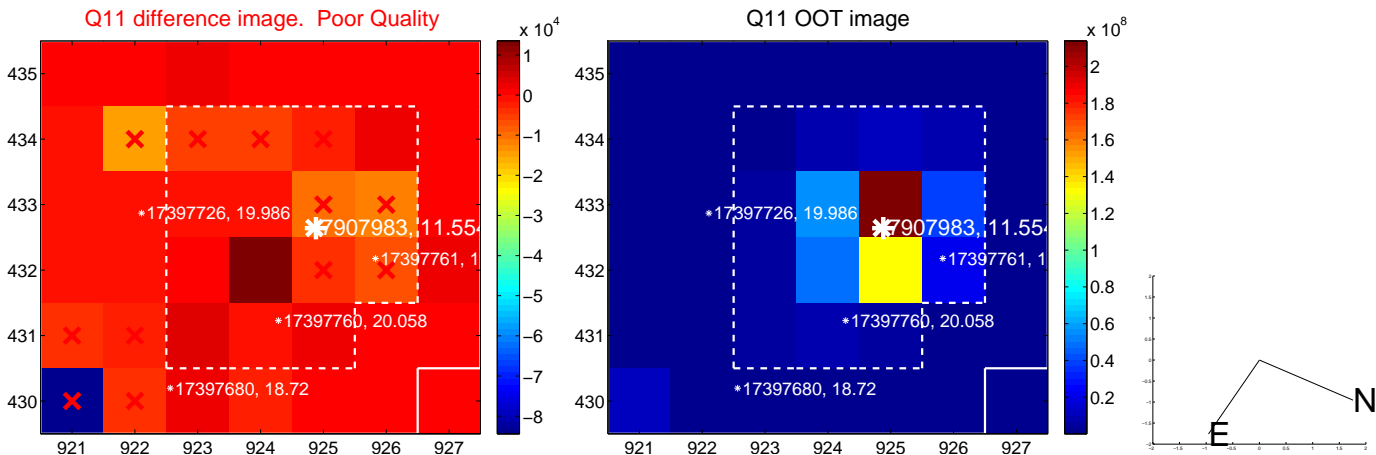
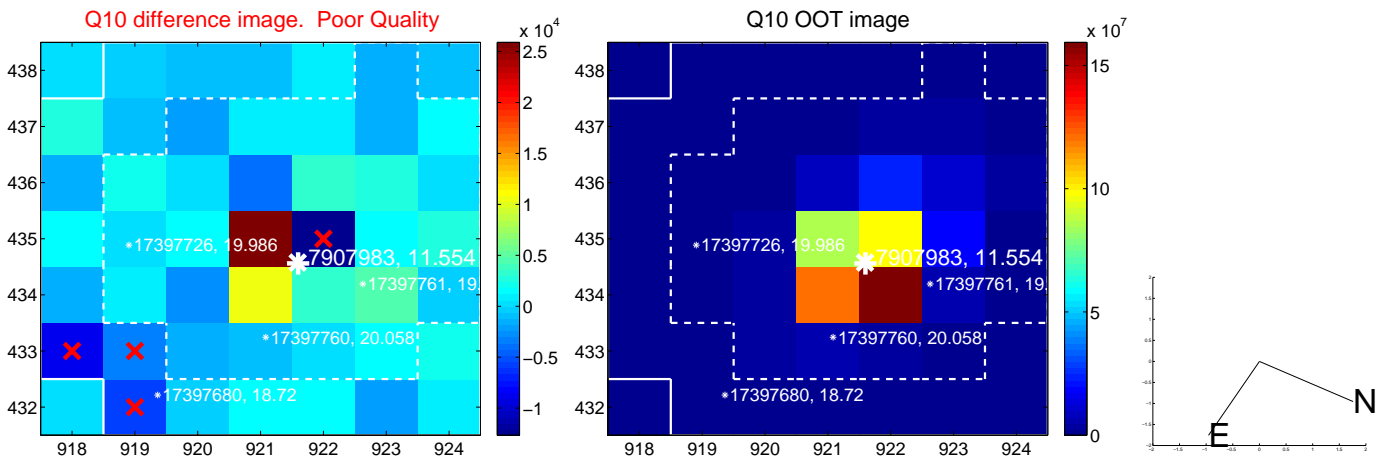
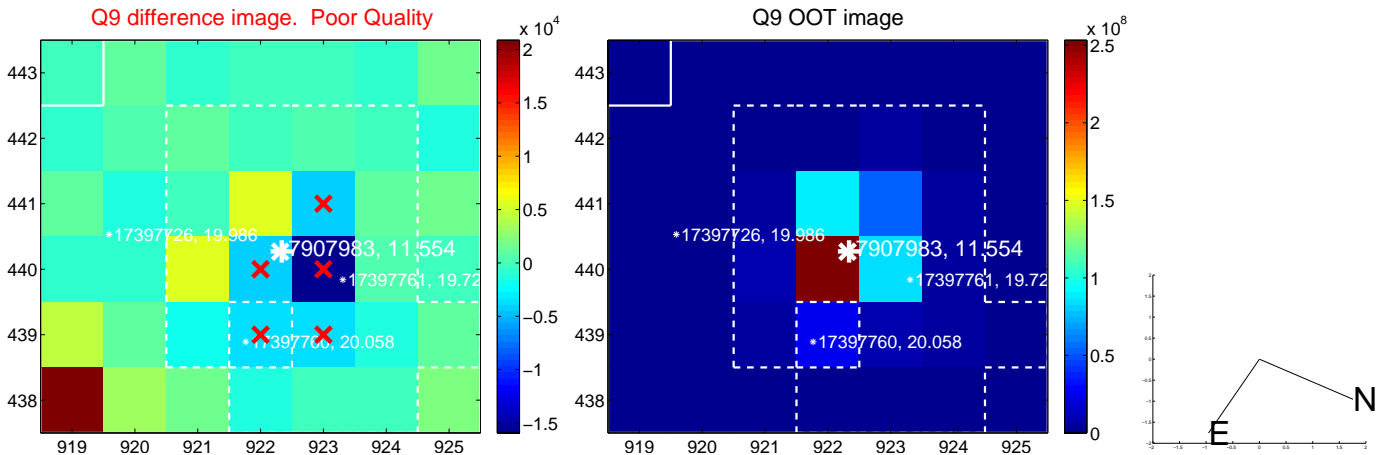
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



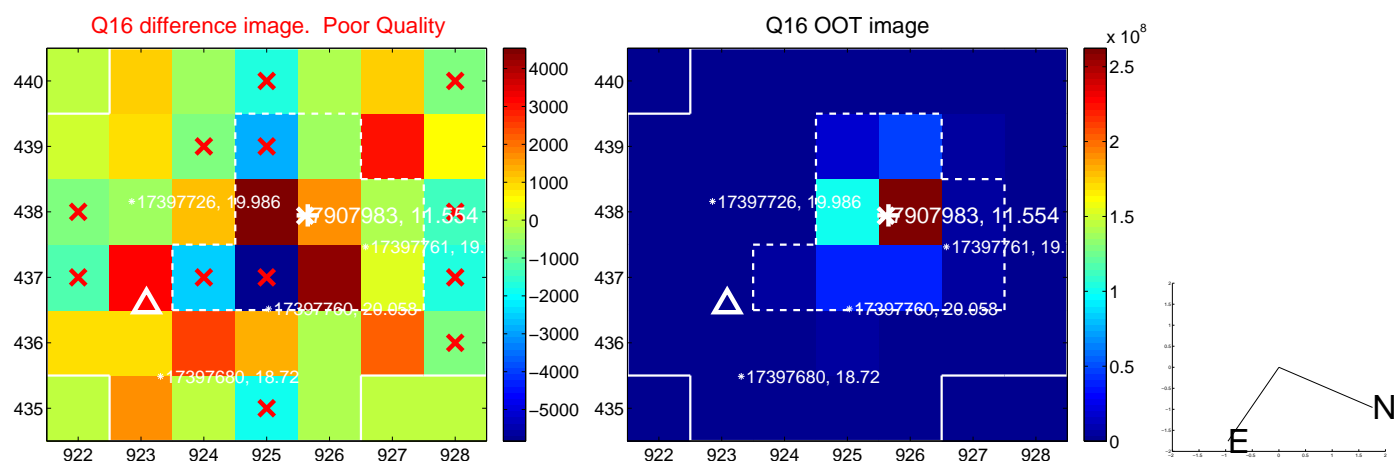
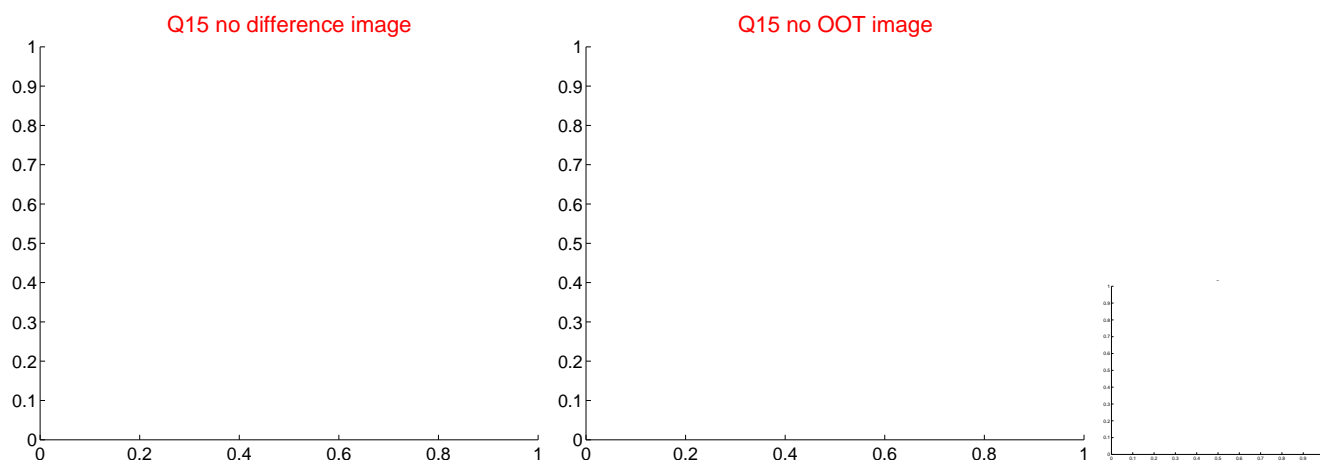
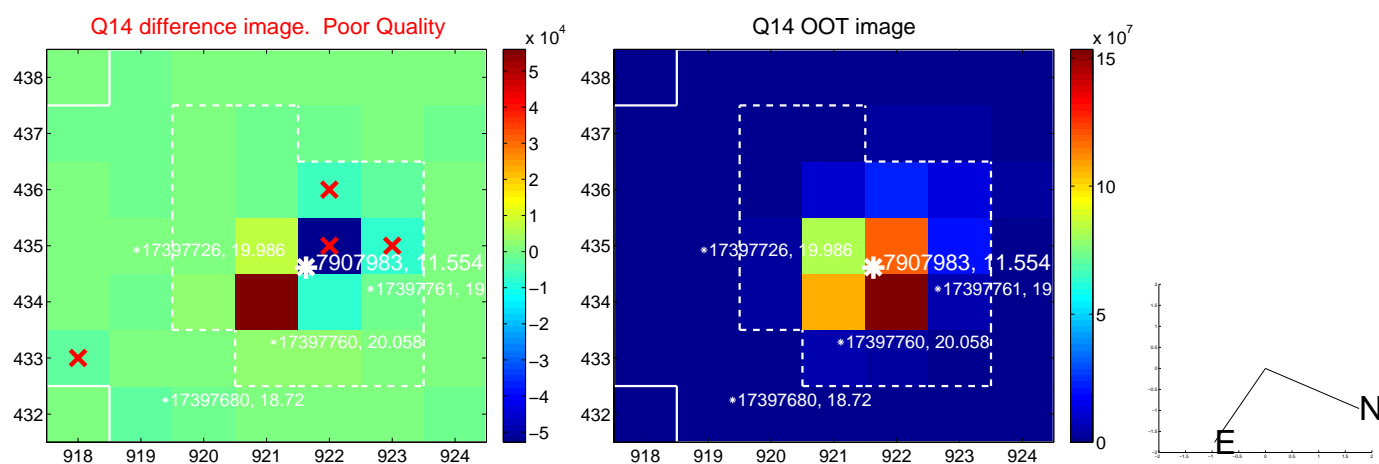
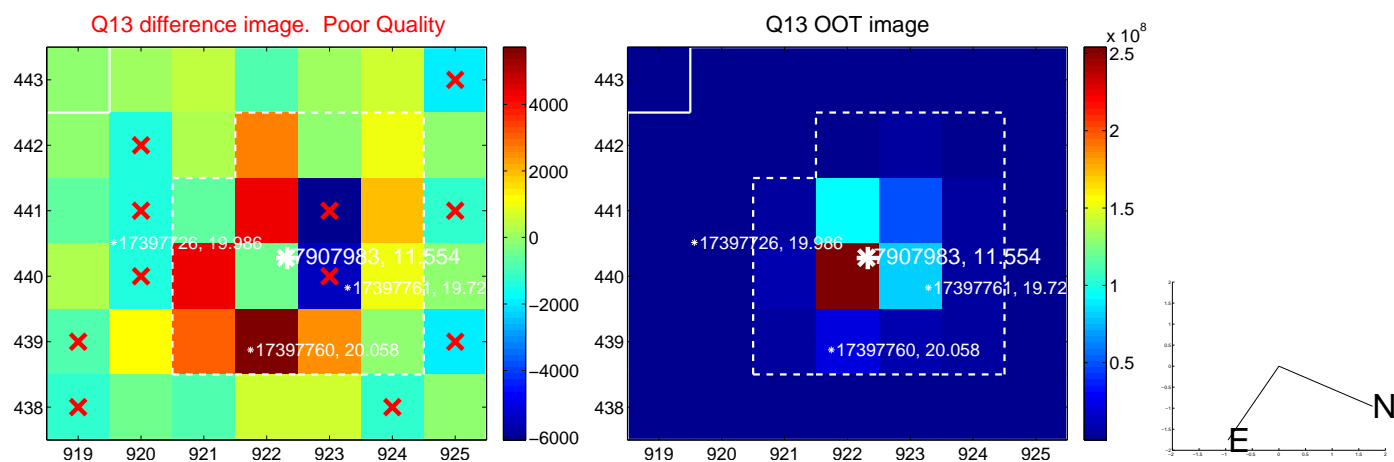
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



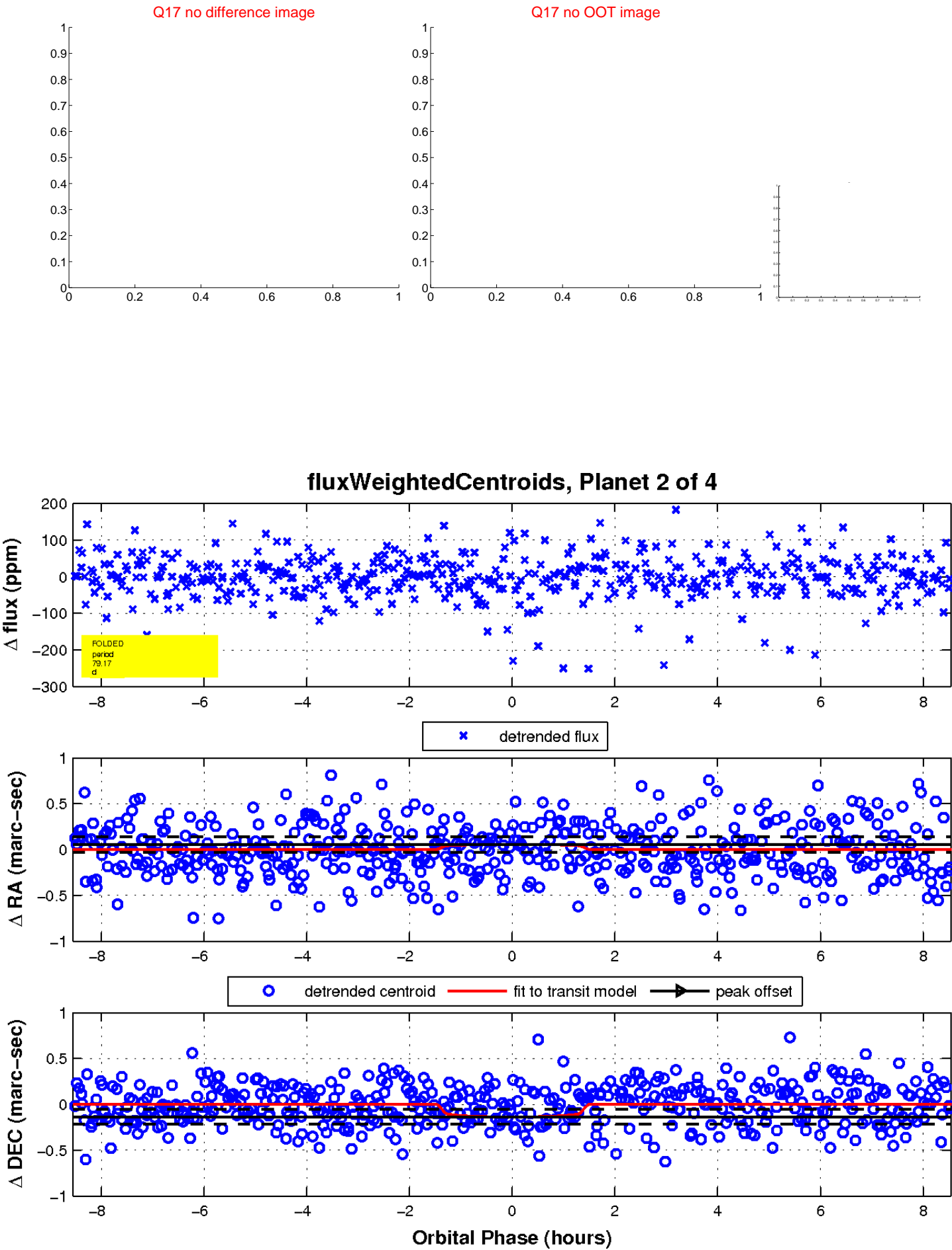
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

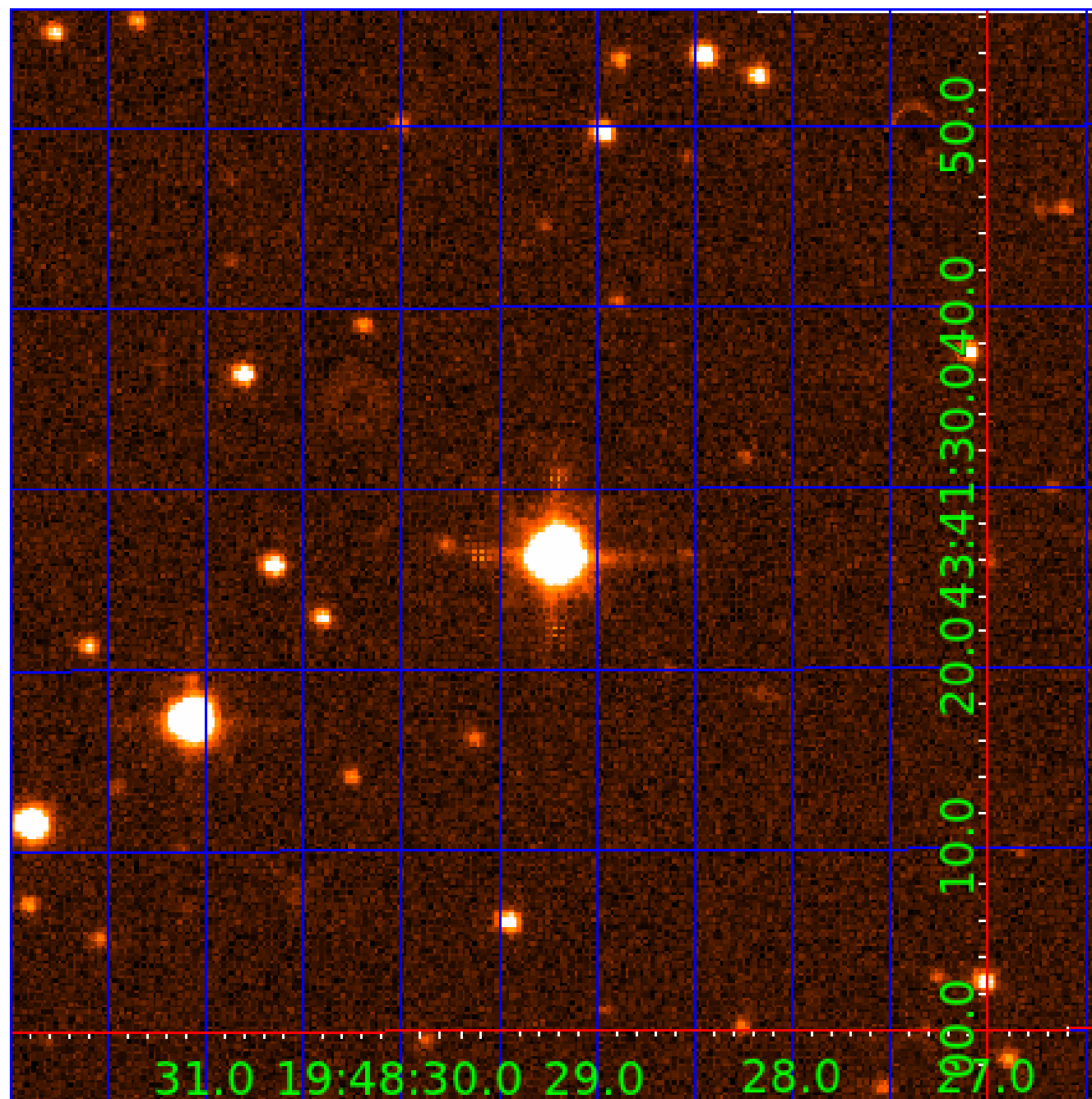


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007907983

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})
007907983-01	OBS	No	0.839841	132.244249	4.7	5.047	8.5	9.0	2.07	8600	0.46	43525.65
007907983-02	OBS	No	79.171580	168.973569	104.5	2.855	10.5	8.4	2.07	8600	2.31	101.45
007907983-03	OBS	No	81.393449	187.804608	118.8	1.796	8.8	6.1	2.07	8600	2.62	97.77
007907983-04	OBS	No	483.788593	267.874492	73.2	4.591	8.1	7.5	2.07	8600	2.04	9.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007907983-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007907983-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007907983-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007907983-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

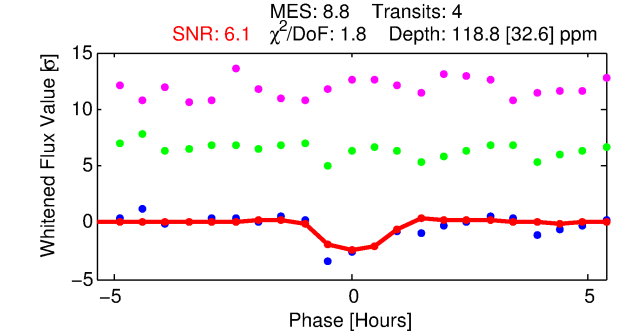
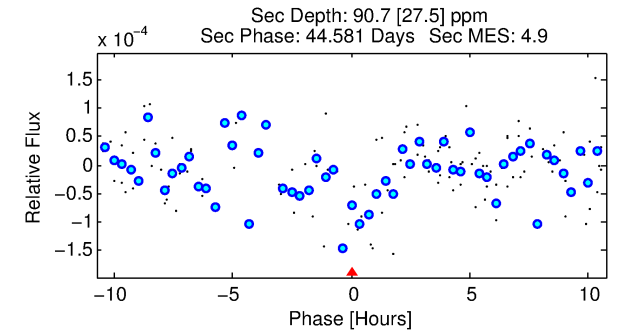
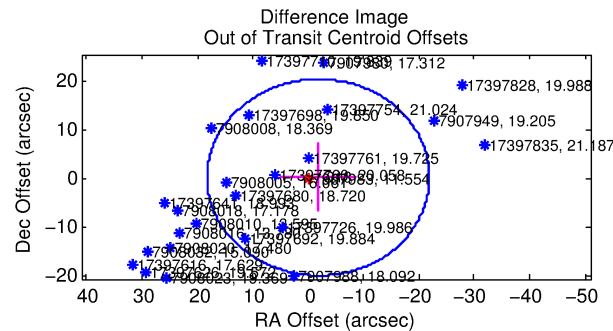
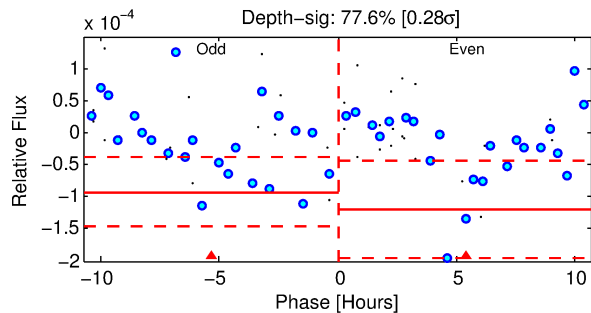
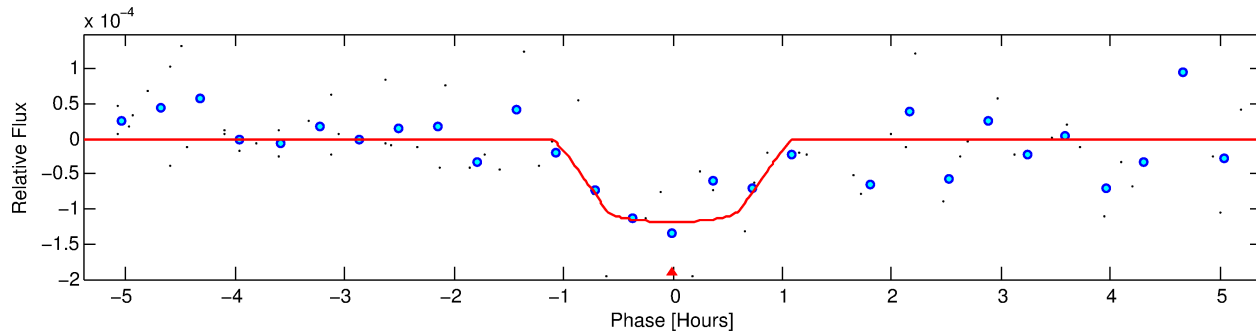
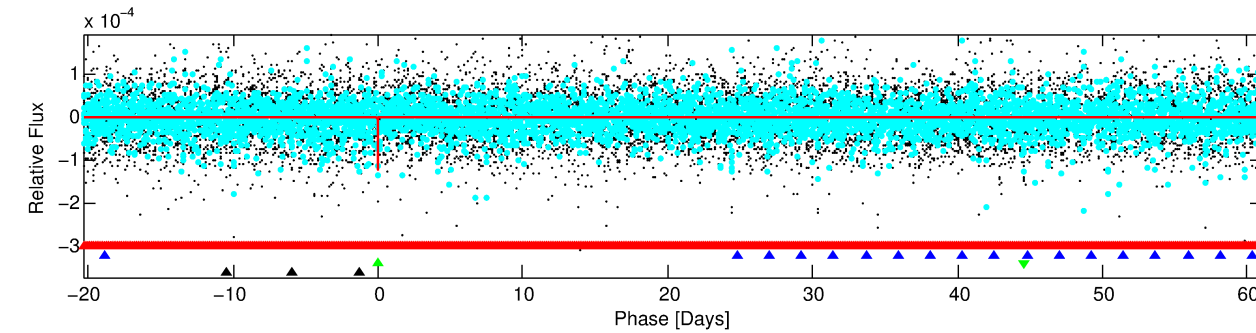
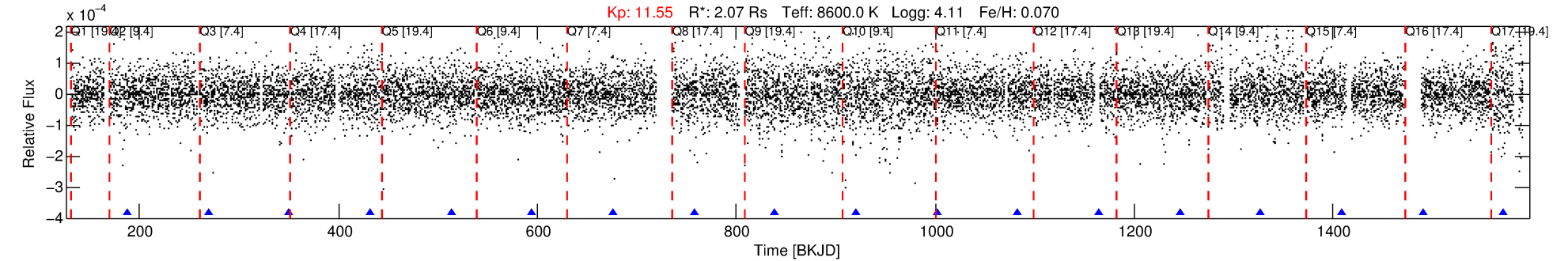
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007907983-03

No Significant Match Found

DV One-Page Summary

KIC: 7907983 Candidate: 3 of 4 Period: 81.393 d



DV Fit Results:

Period = 81.39345 [0.00304] d
Epoch = 187.8046 [0.0220] BKJD
Rp/R* = 0.0116 [0.0155]
a/R* = 159.81 [1425.59]
b = 0.90 [1.92]
Seff = 97.77 [33.36]
Teq = 802 [68] K
Rp = 2.62 [3.56] Re
a = 0.4637 [0.0914] AU
Ag = 1563.76 [4232.97] [0.37 σ]
Teffp = 7796 [5259] K [1.33 σ]

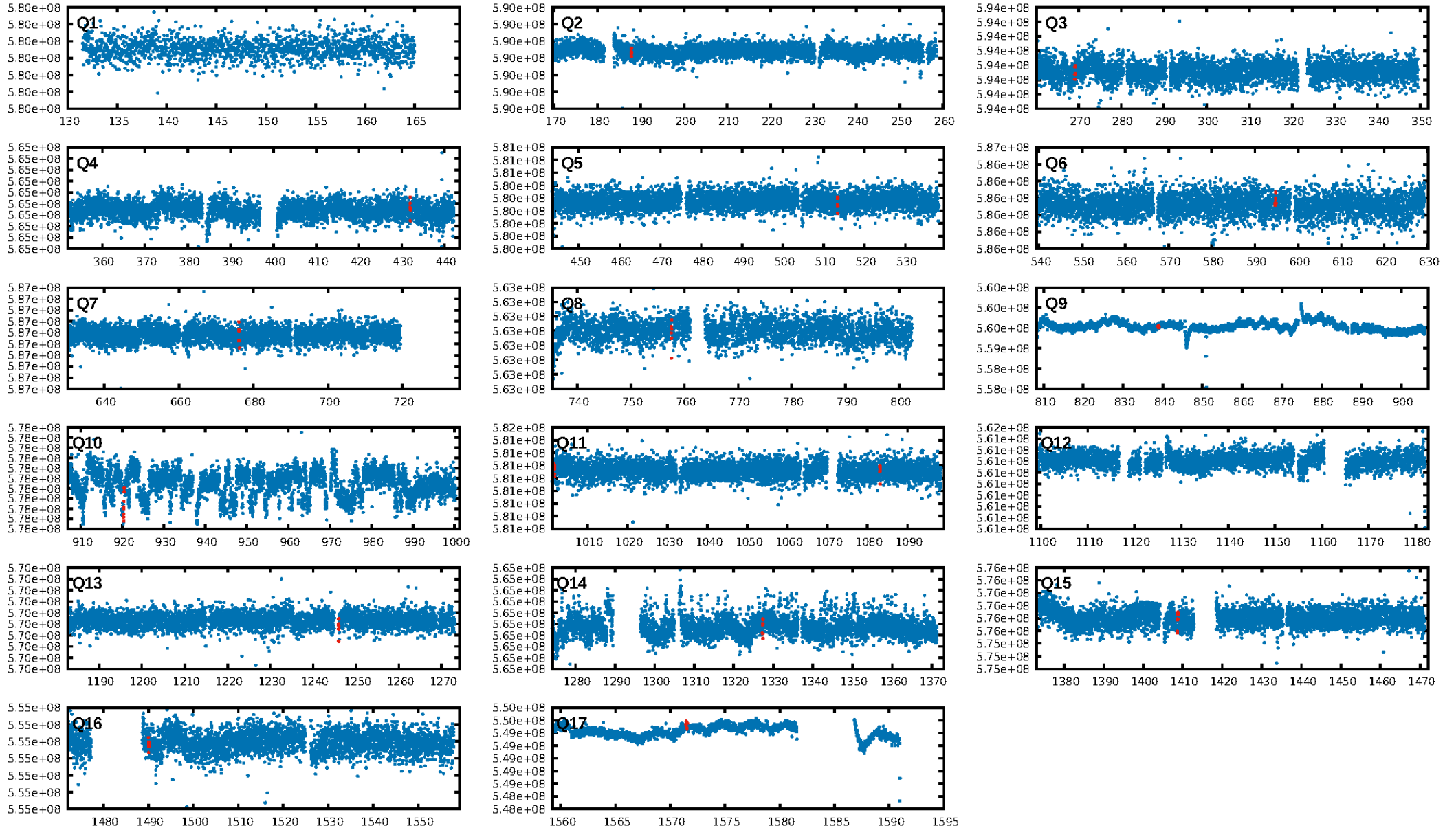
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [15.81 σ]
LongPeriod-sig: 100.0% [1959.14 σ]
ModelChiSquare2-sig: 4.0%
ModelChiSquareGof-sig: 81.1%
Bootstrap-pfa: 1.21e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.157
Centroid-sig: 17.4%
Centroid-so: 0.753 arcsec [0.92 σ]
OotOffset-rm: 1.823 arcsec [0.27 σ]
KicOffset-rm: 1.810 arcsec [0.27 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.15 [2/13]

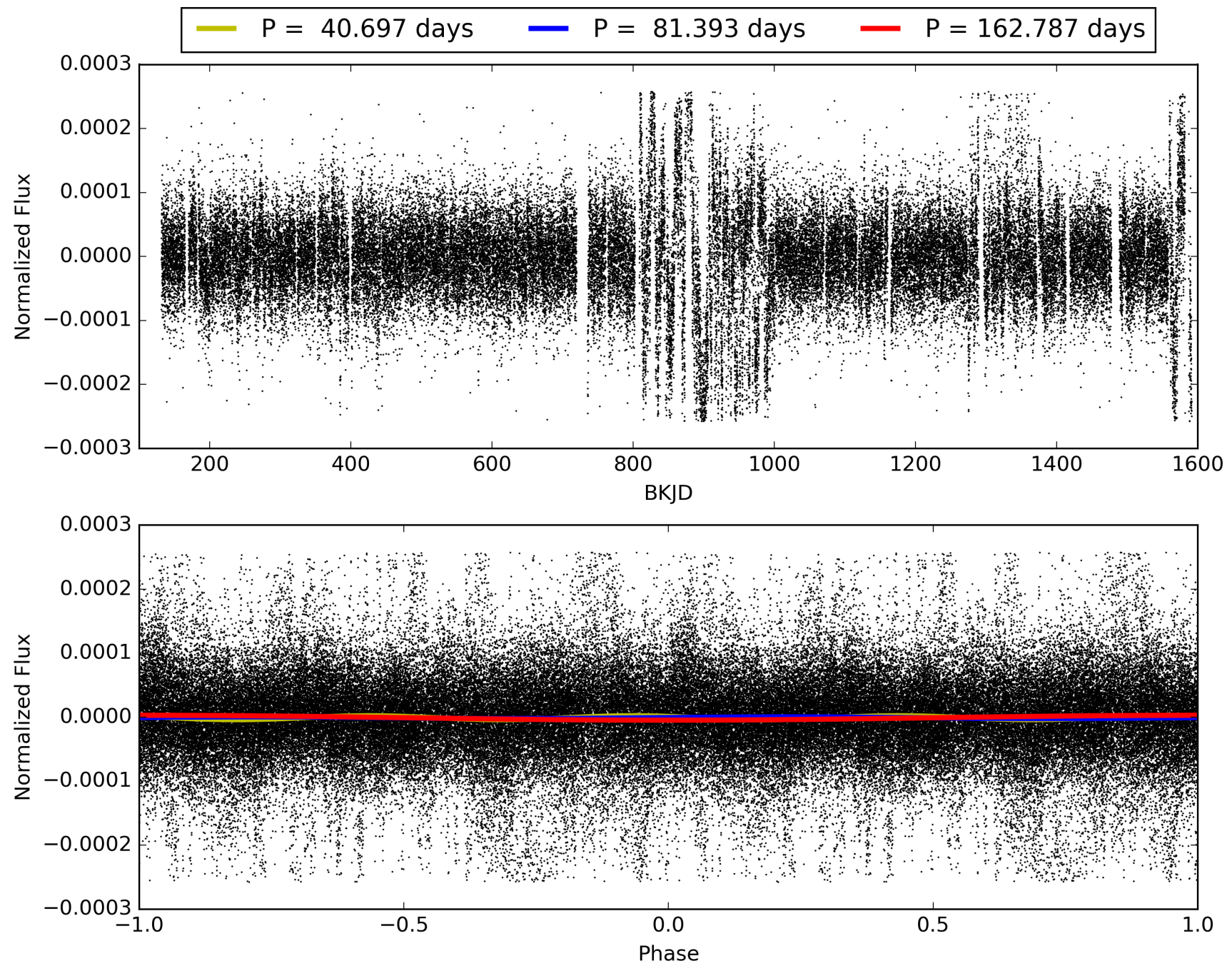
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:11:50 Z

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

TCE 007907983-03, PDC Light Curves

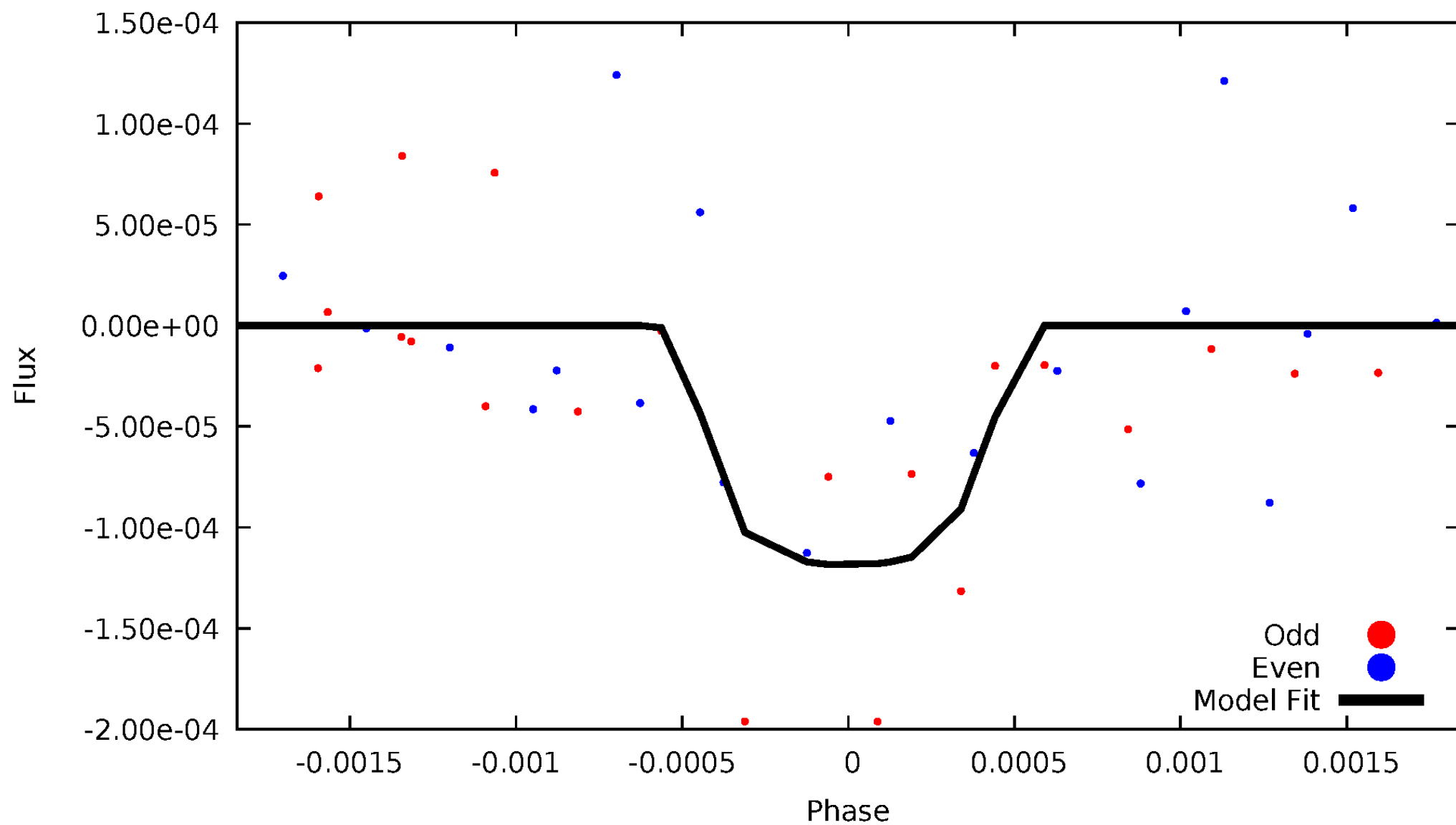


TCE 007907983-03



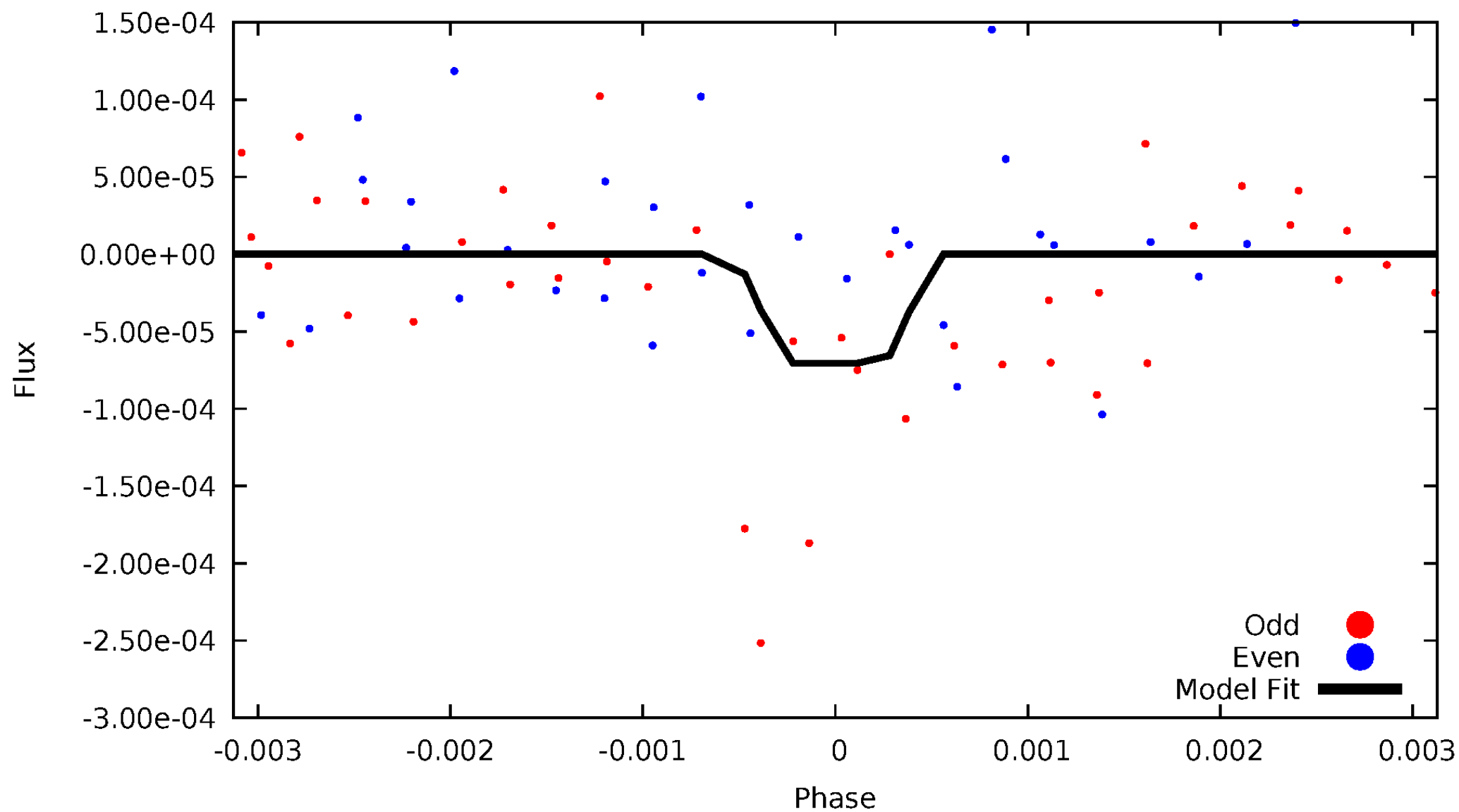
DV Odd/Even

TCE 007907983-03



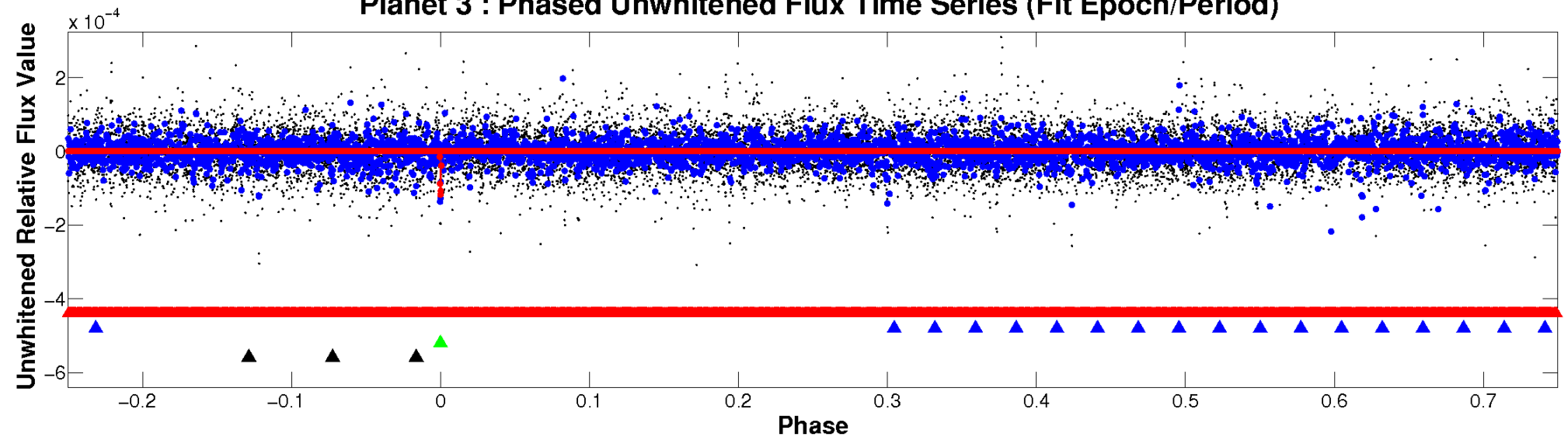
ALT Odd/Even

TCE 007907983-03

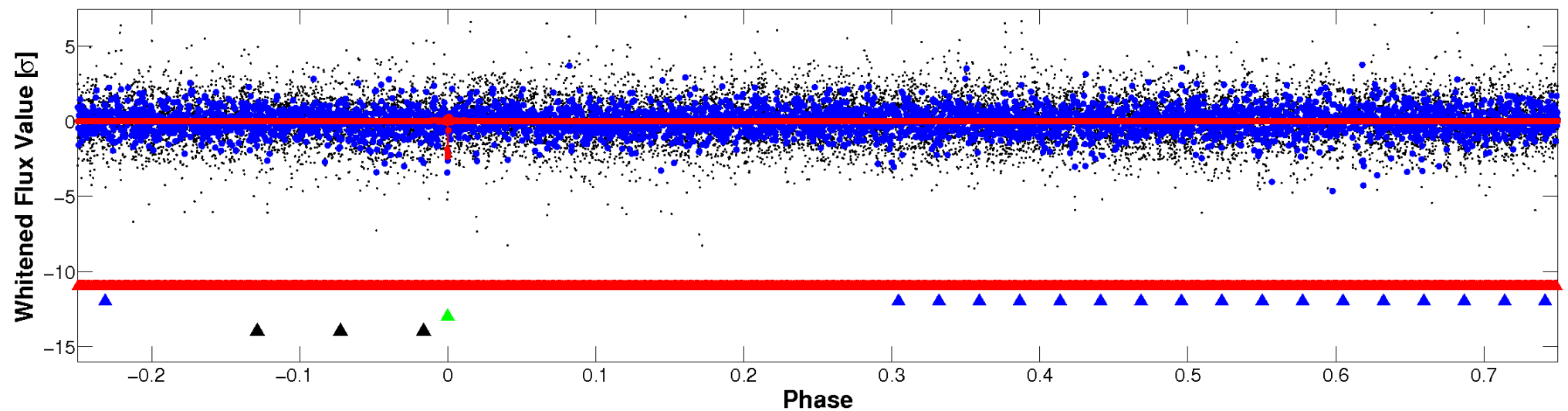


Non-Whitened Vs. Whitened Light Curve

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

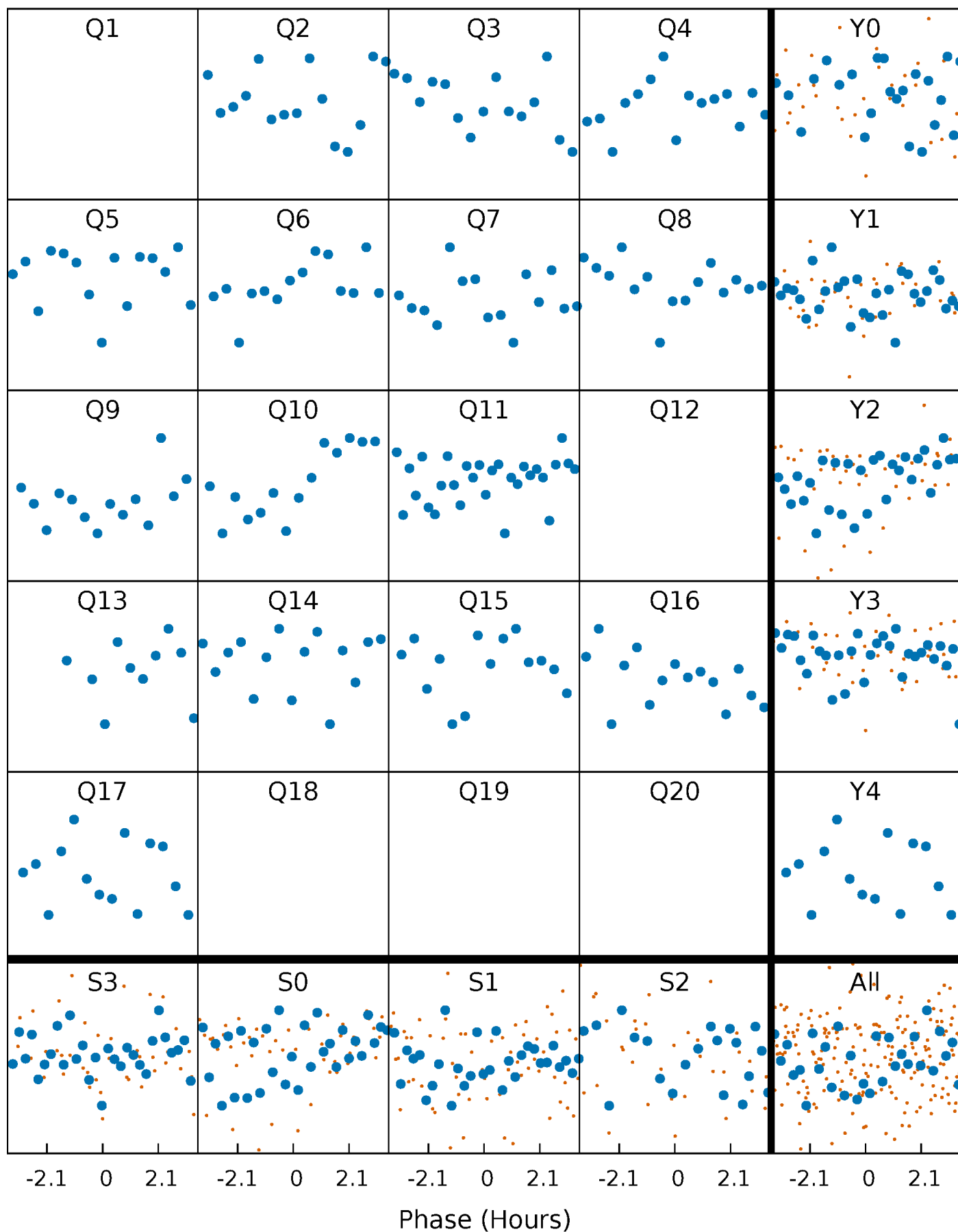


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



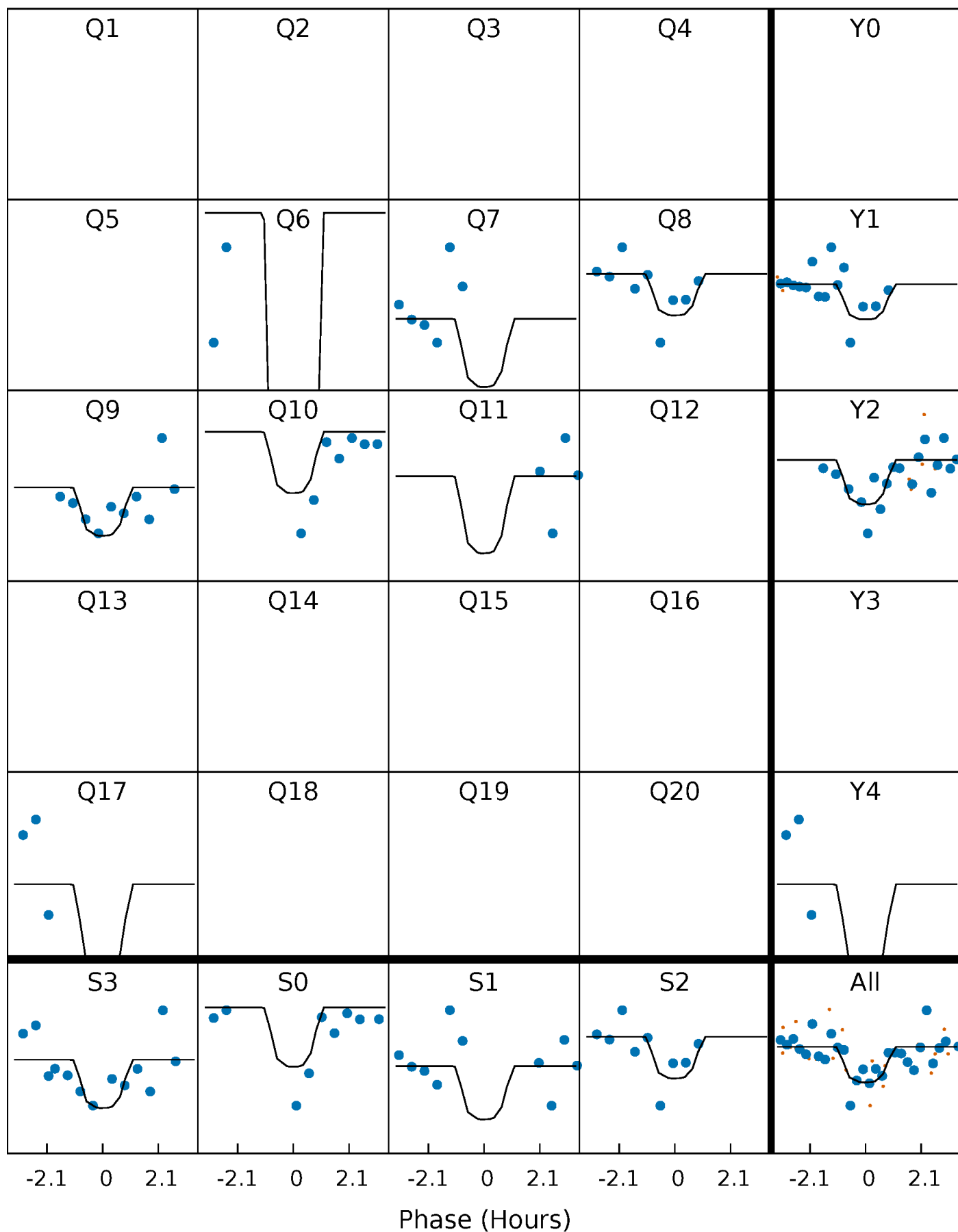
PDC Quarter-Phased Transit Curves

TCE 007907983-03 P= 81.393449 Days $T_0=187.804608$ (BKJD)



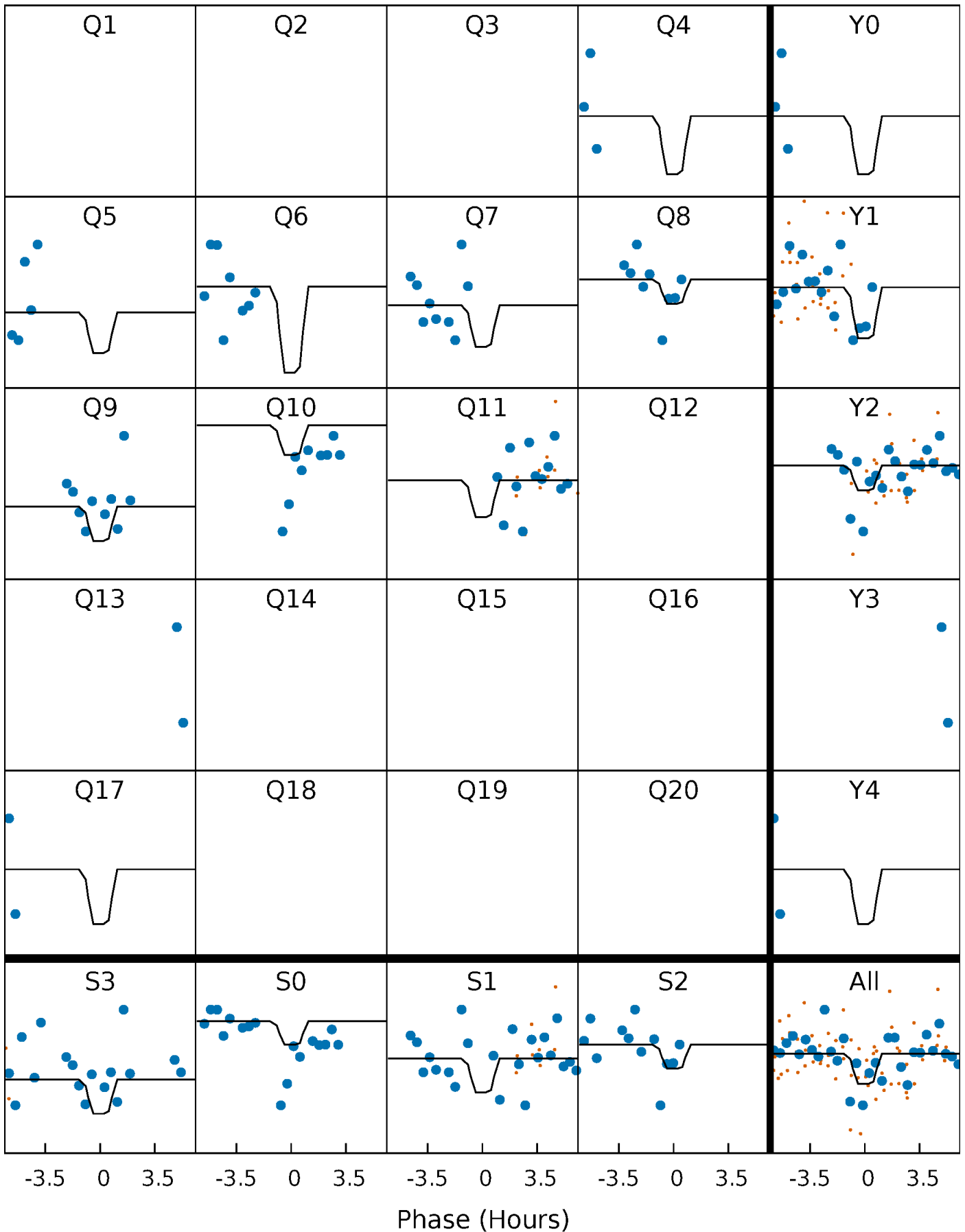
DV Quarter-Phased Transit Curves

TCE 007907983-03 $P = 81.393449$ Days $T_0 = 187.804608$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

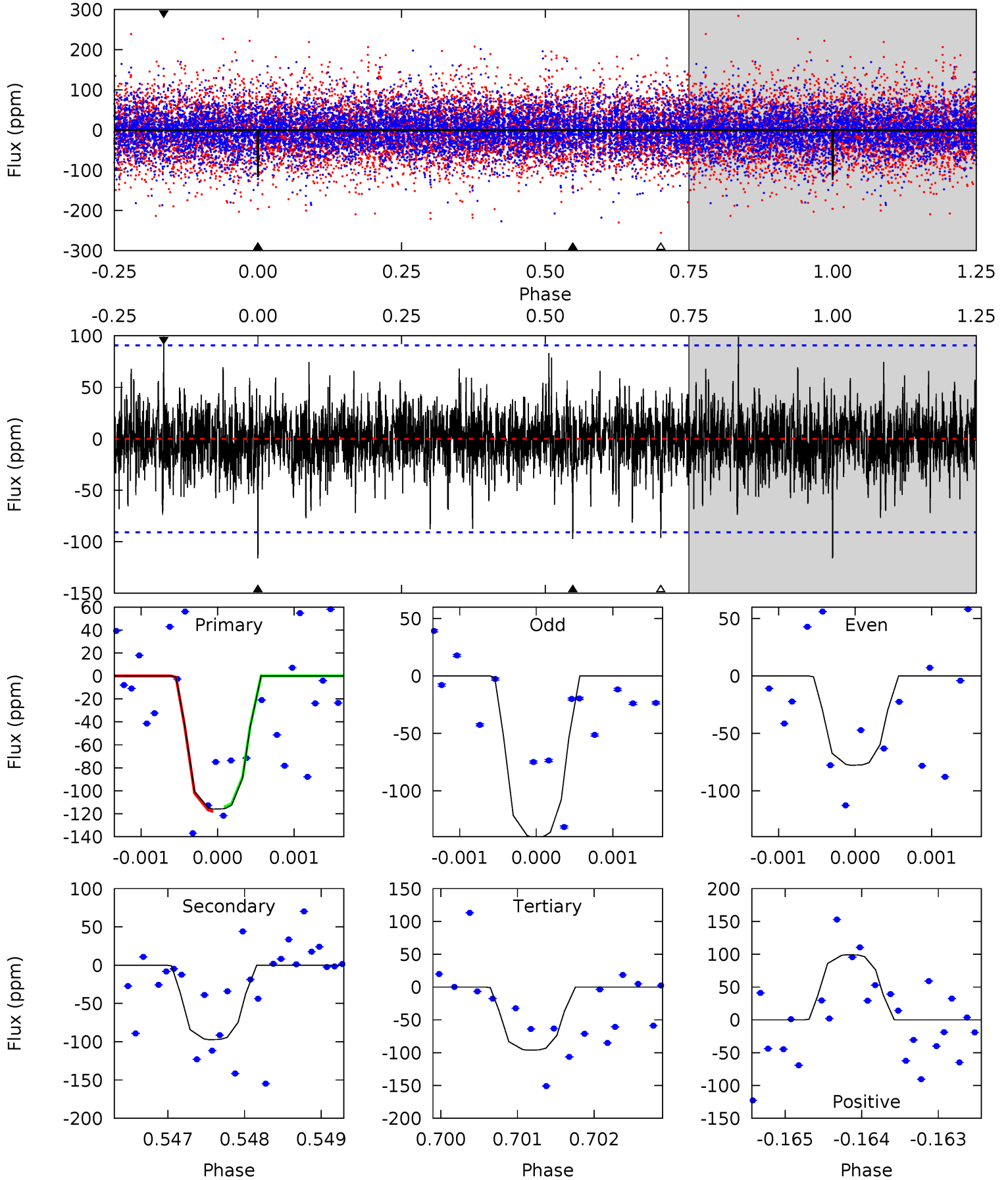
TCE 007907983-03 P= 81.406327 Days $T_0=187.727395$ (BKJD)



DV Model-Shift Uniqueness Test

007907983-03, P = 81.393449 Days, E = 106.411159 Days

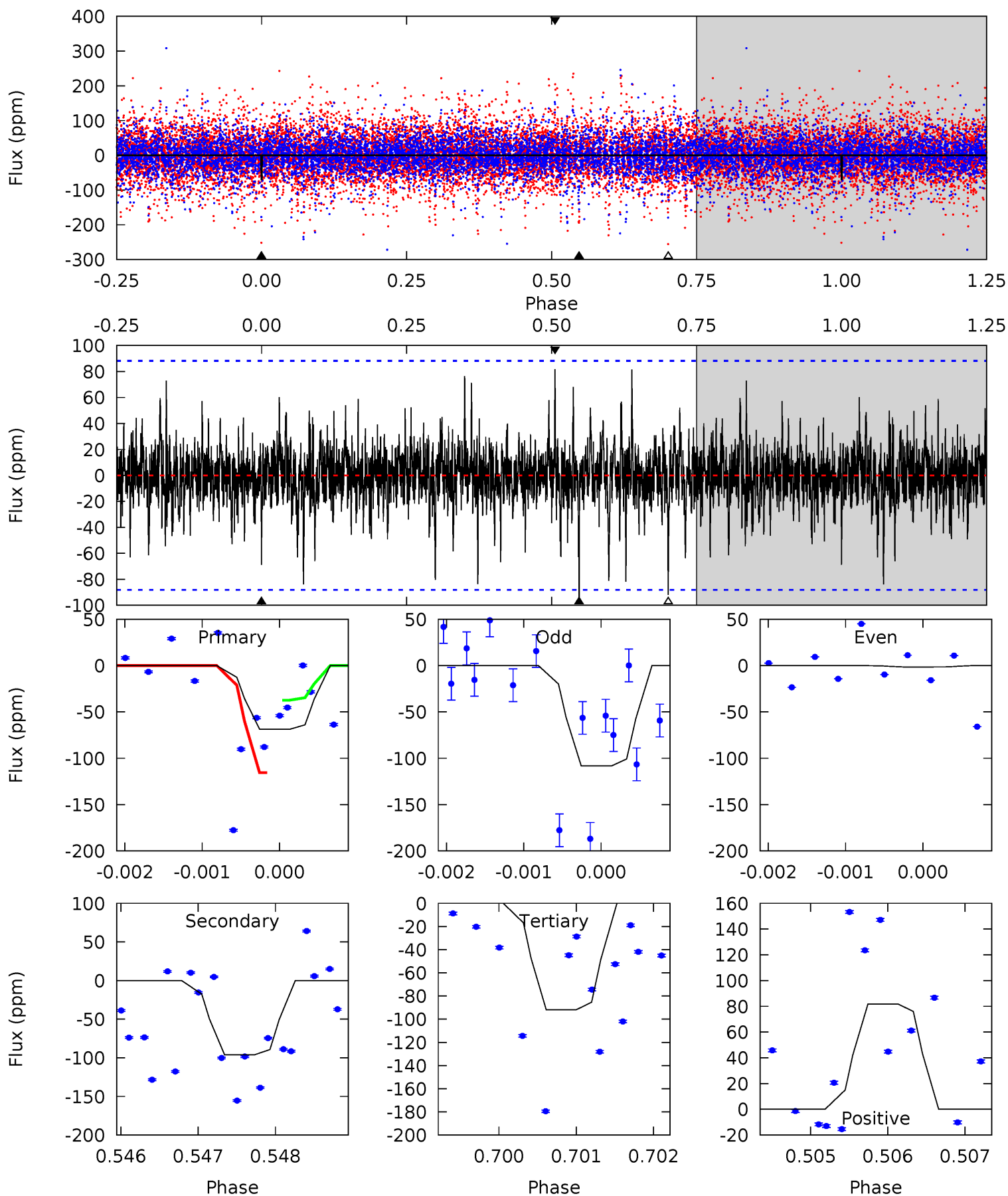
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.96	5.84	5.77	5.95	5.44	3.28	1.23	1.19	1.01	0.07	-0.12	1.84	1.14	0.46	0.12



Alt Model-Shift Uniqueness Test

007907983-03, P = 81.406327 Days, E = 106.321068 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.27	5.97	5.71	5.08	5.48	3.33	1.08	-1.44	-0.81	0.26	0.89	3.40	1.52	0.46	2.46



Stellar Parameters For KIC 007907983

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8600^{+236}_{-406}	$4.108^{+0.140}_{-0.154}$	$0.070^{+0.250}_{-0.550}$	$2.071^{+0.490}_{-0.490}$	$2.005^{+0.356}_{-0.435}$	$0.318^{+0.239}_{-0.137}$
	+3%/-5%	+3%/-4%	+357%/-786%	+24%/-24%	+18%/-22%	+75%/-43%
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 007907983-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-97 ± 17	$3.53^{+3.39}_{-2.26}$	1118^{+77}_{-75}	6537^{+6295}_{-1707}	918^{+5983}_{-689}
Alt.	-96 ± 16	$3.14^{+3.34}_{-2.11}$	1121^{+74}_{-79}	6893^{+8853}_{-1996}	1111^{+10160}_{-851}

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

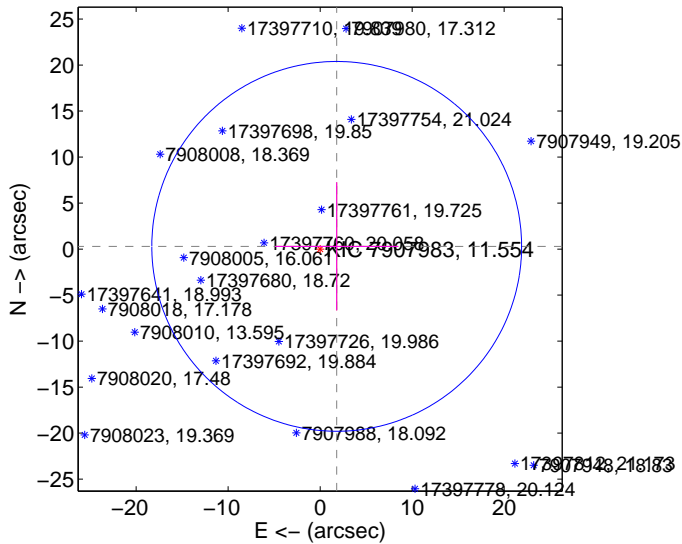
Supplemental centroid analysis for 007907983-03. **Kepler magnitude: 11.55.** Transit SNR 6.06

There are 0 quarters with good PRF difference image offsets

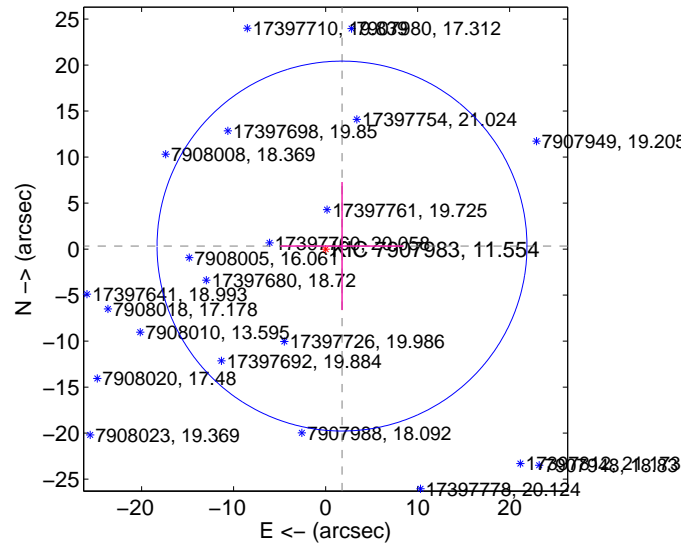
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.823 ± 6.698	0.27	-1.799 ± 6.690	0.296 ± 6.962
PRF-fit source offset from KIC position	1.810 ± 6.700	0.27	-1.780 ± 6.690	0.329 ± 6.962
photometric centroid source offset	0.75 ± 0.82	0.92	-0.54 ± 0.88	-0.53 ± 0.76

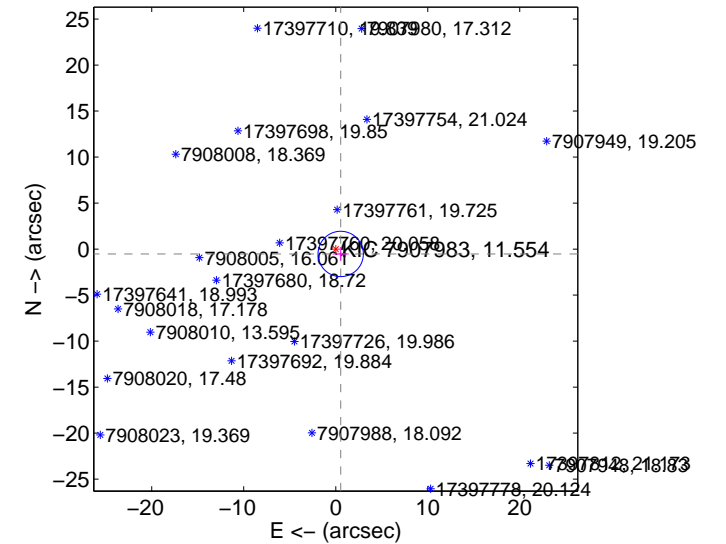
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

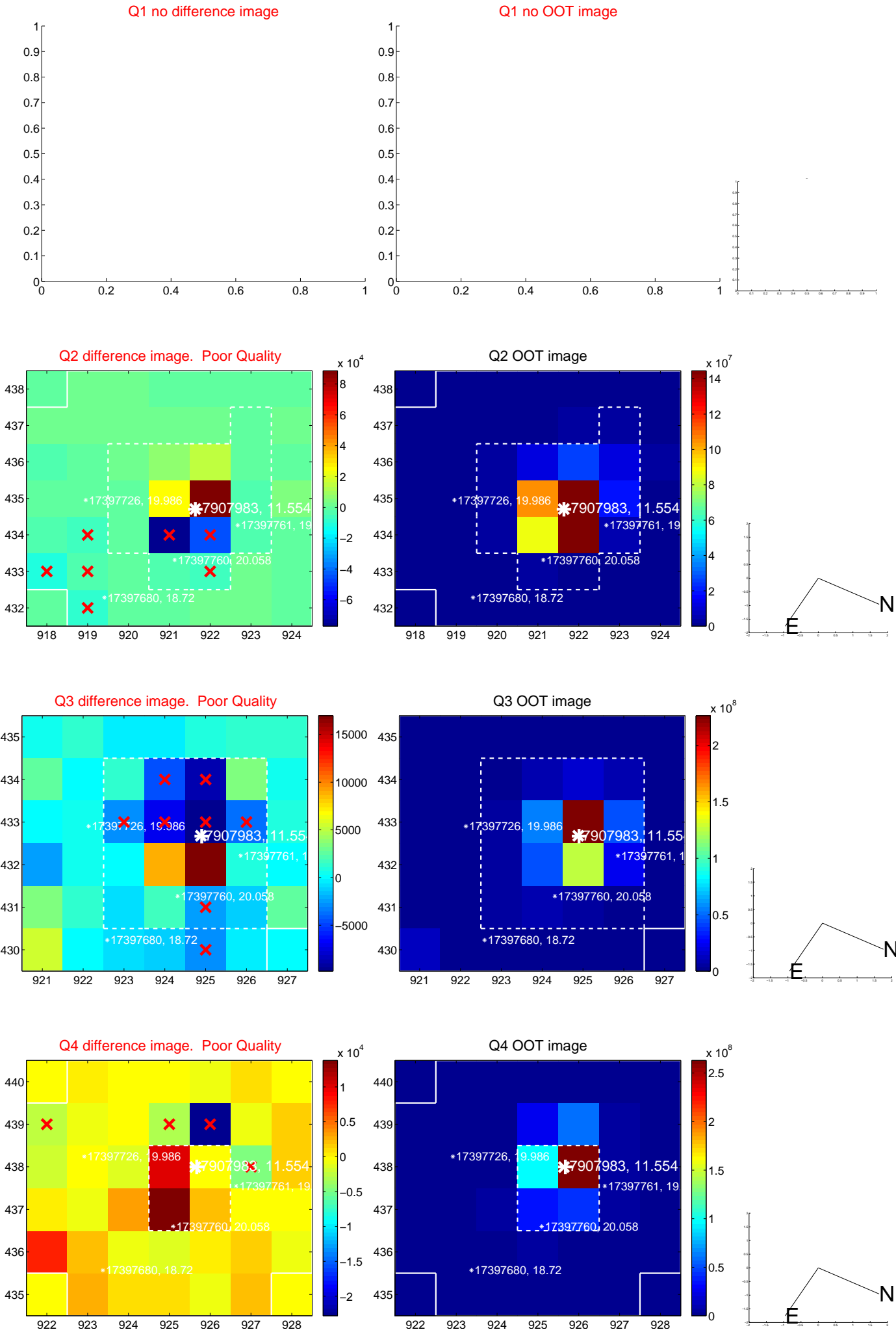


offset from photometric centroids

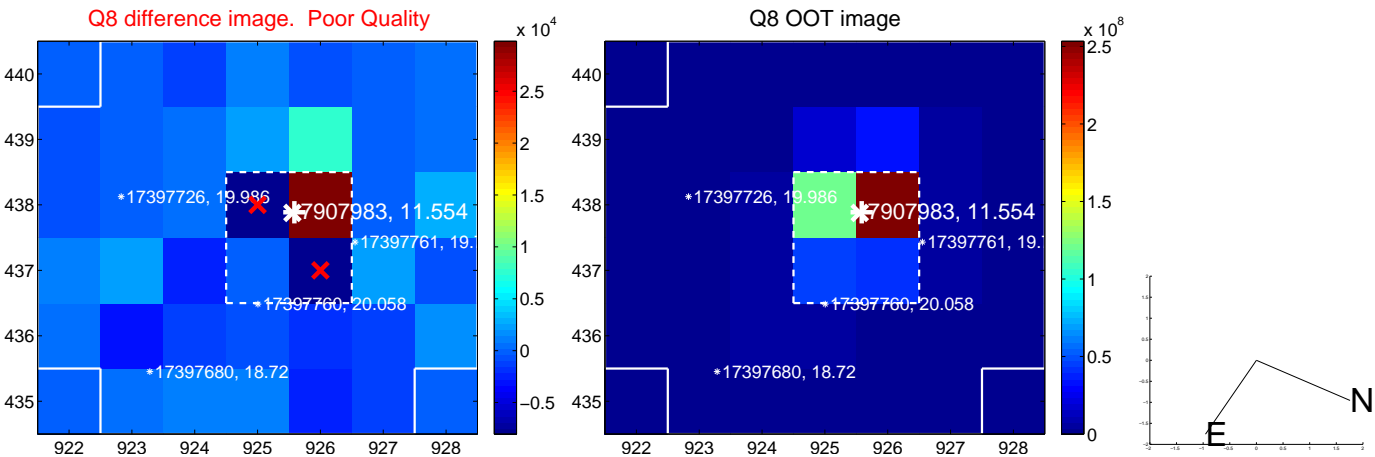
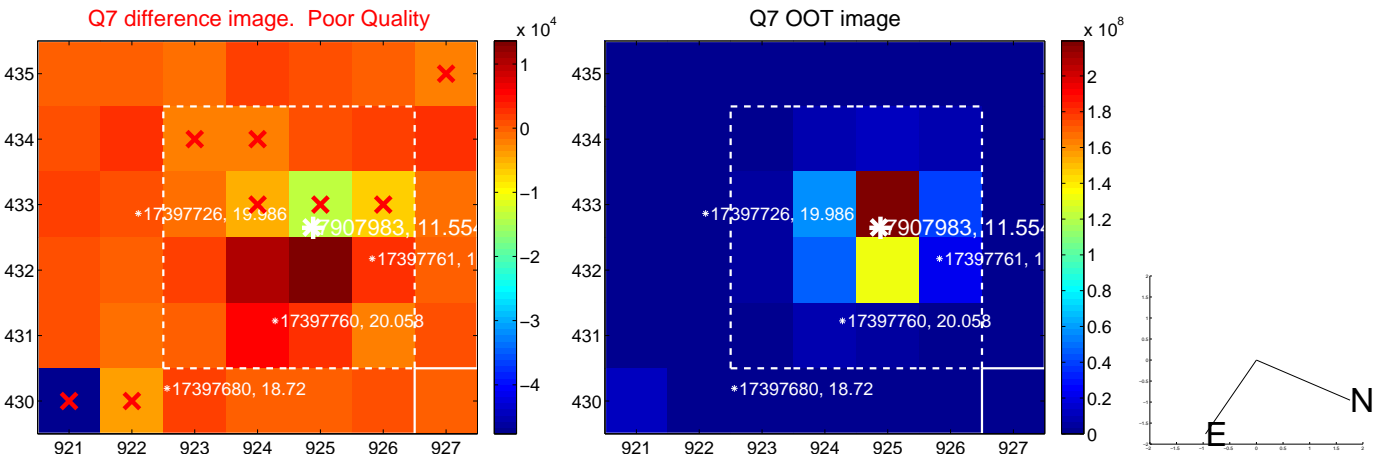
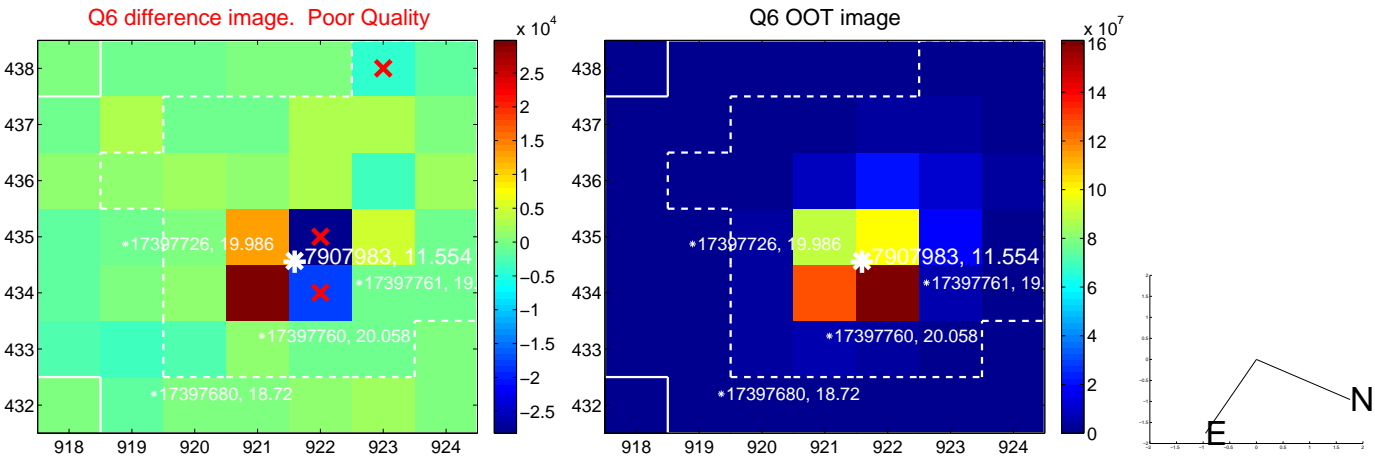
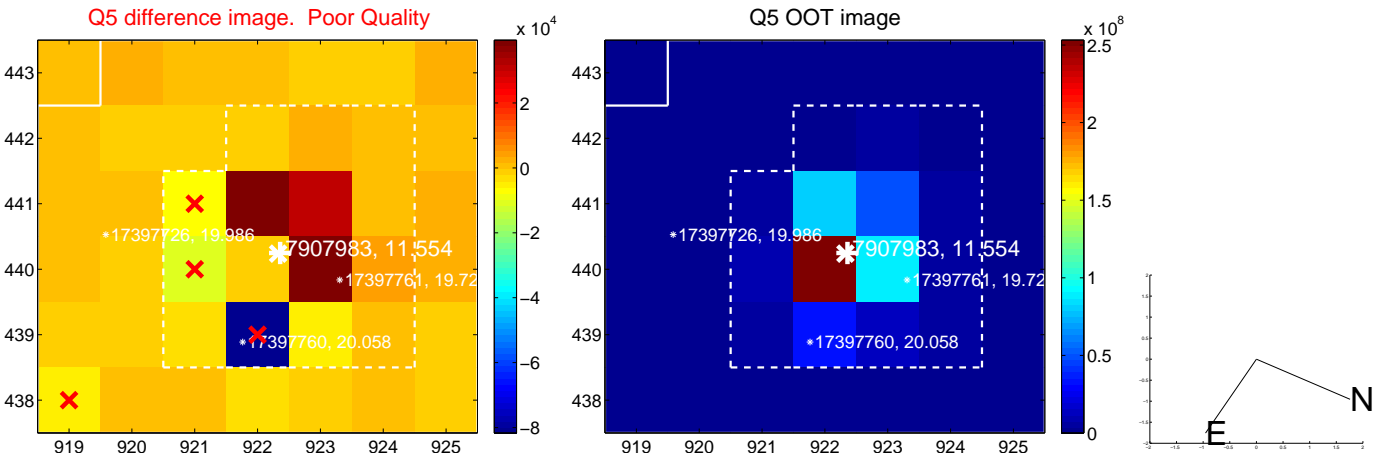


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

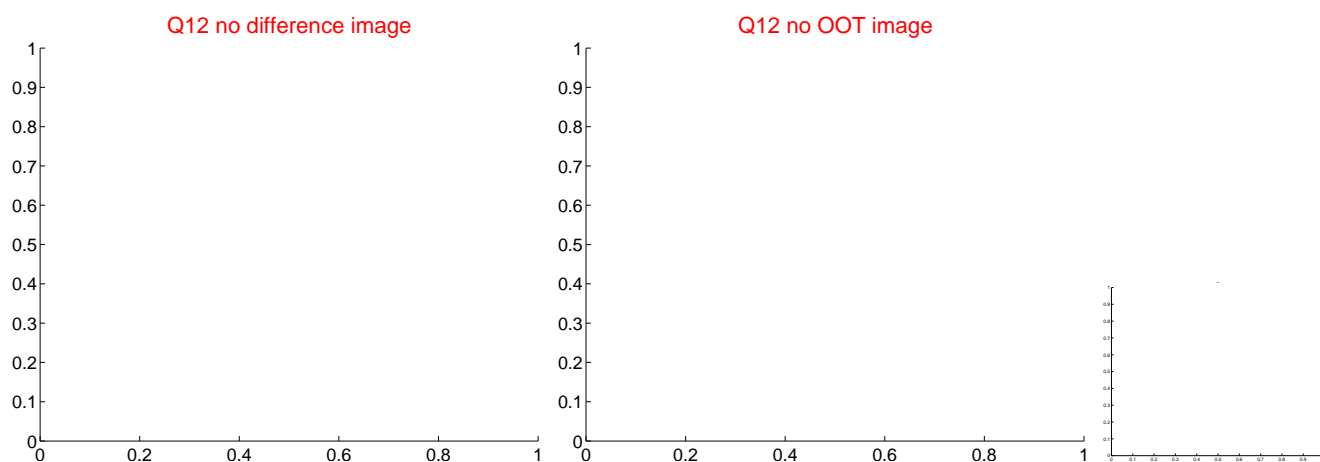
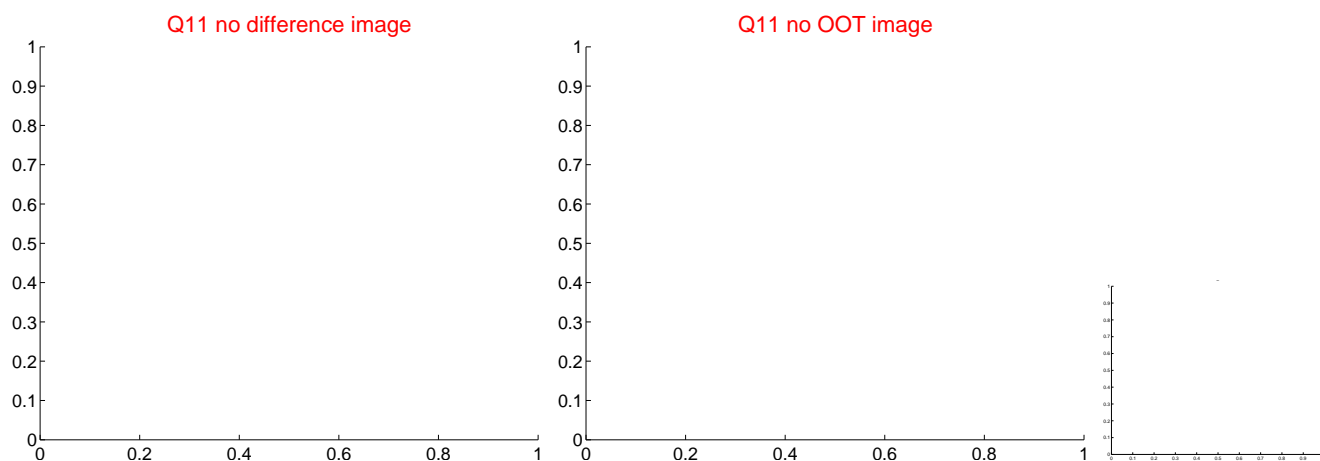
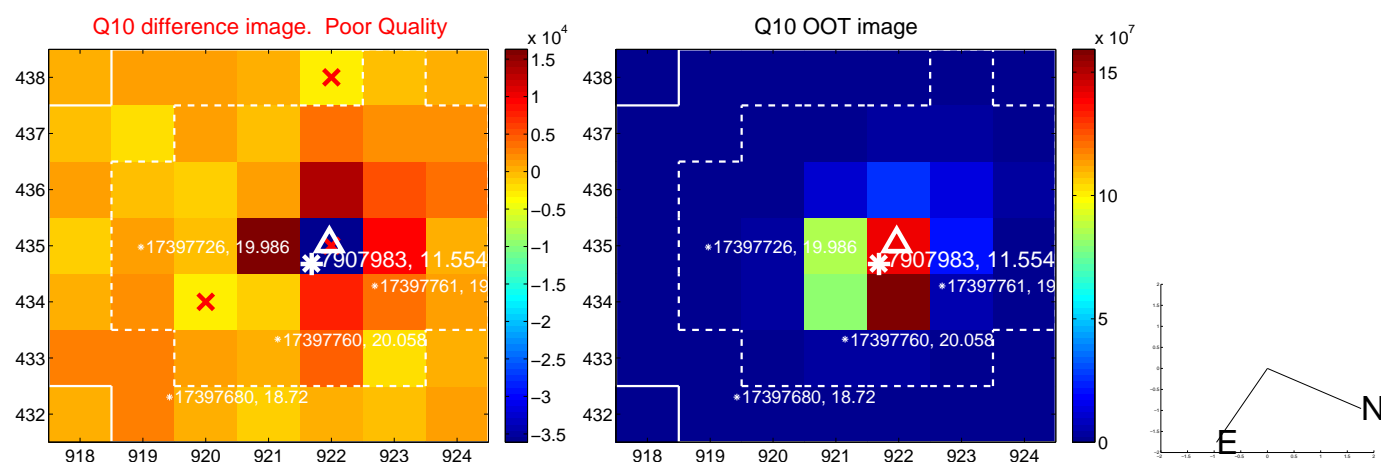
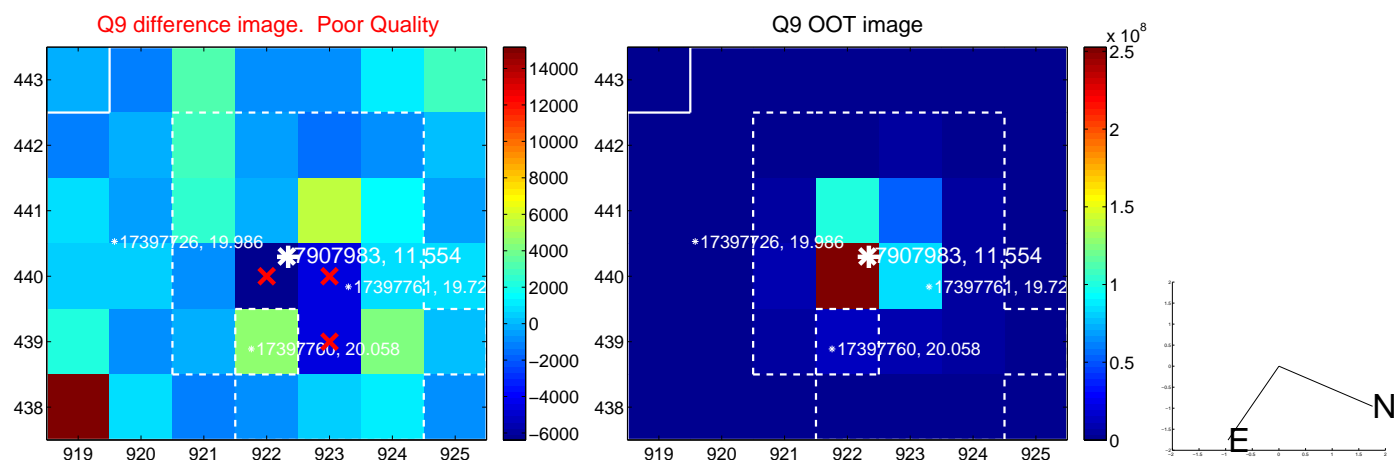
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



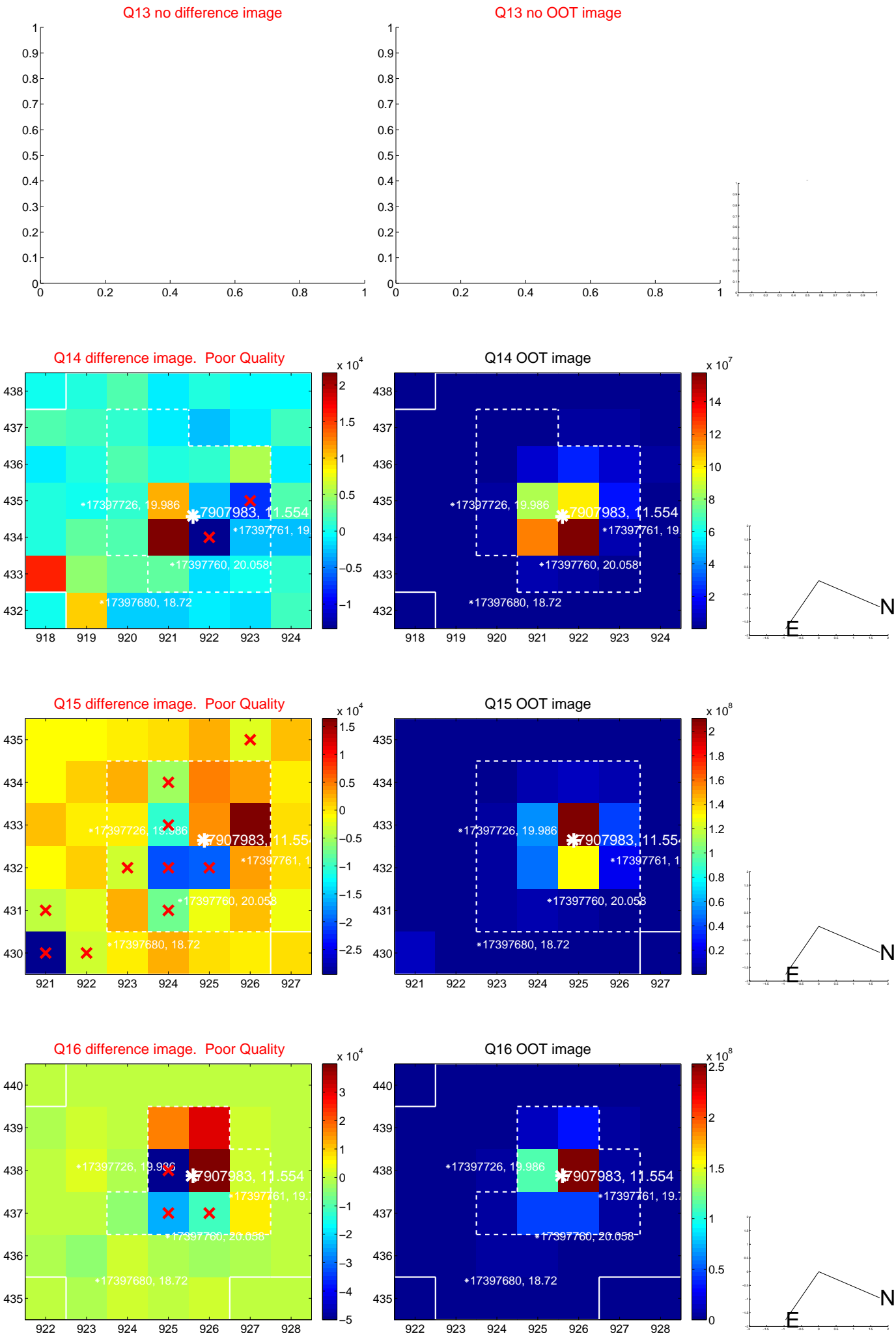
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



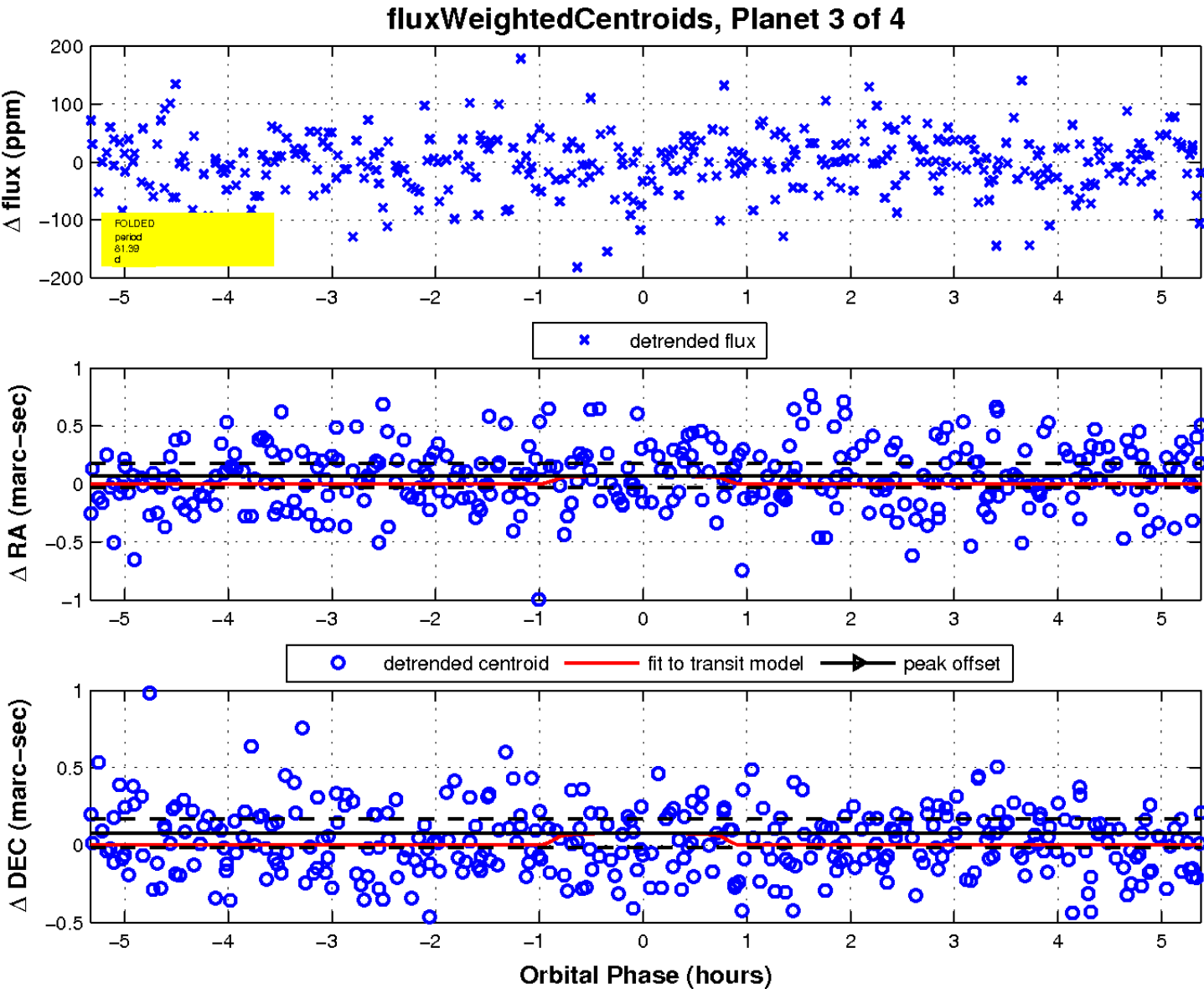
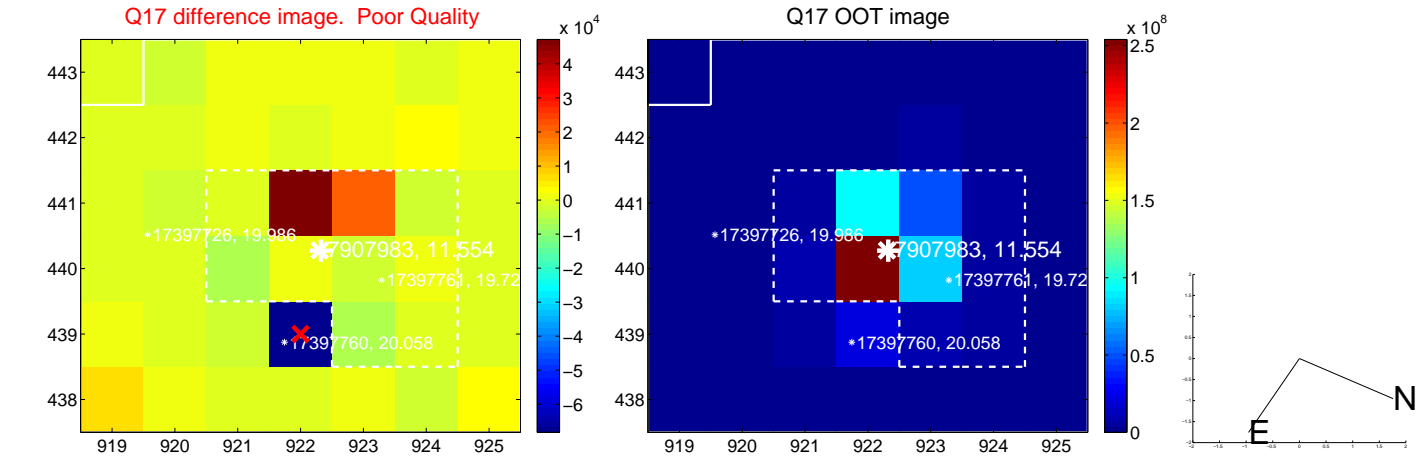
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

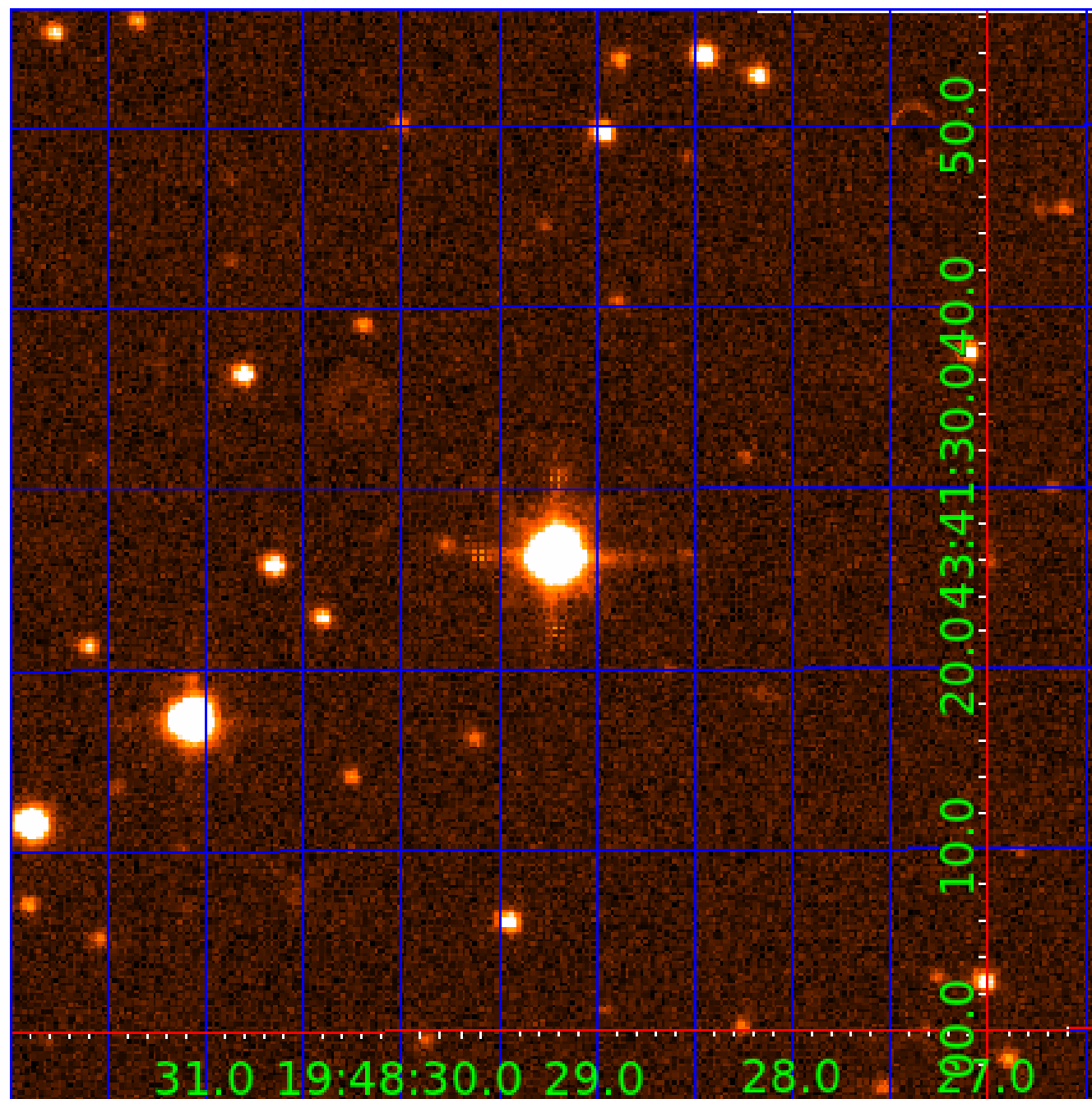


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007907983

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})
007907983-01	OBS	No	0.839841	132.244249	4.7	5.047	8.5	9.0	2.07	8600	0.46	43525.65
007907983-02	OBS	No	79.171580	168.973569	104.5	2.855	10.5	8.4	2.07	8600	2.31	101.45
007907983-03	OBS	No	81.393449	187.804608	118.8	1.796	8.8	6.1	2.07	8600	2.62	97.77
007907983-04	OBS	No	483.788593	267.874492	73.2	4.591	8.1	7.5	2.07	8600	2.04	9.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007907983-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007907983-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007907983-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007907983-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

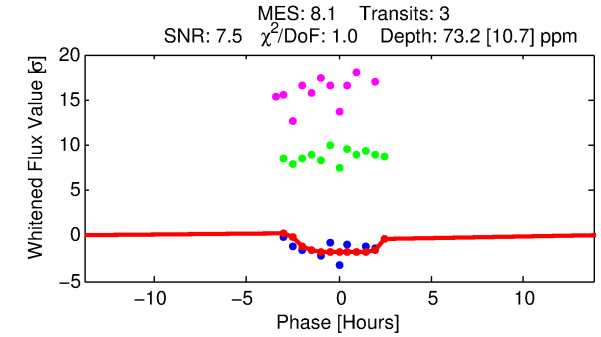
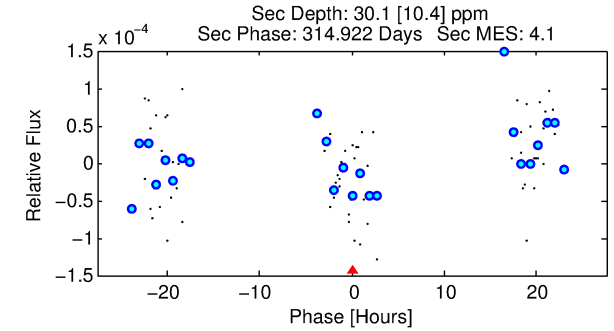
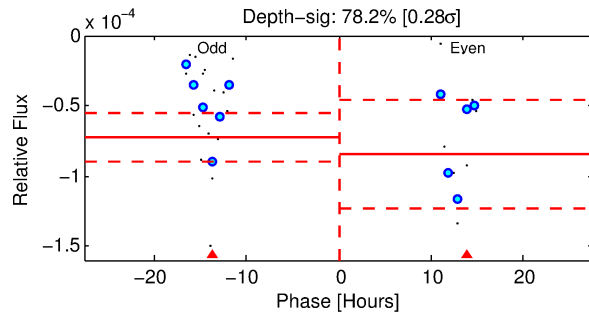
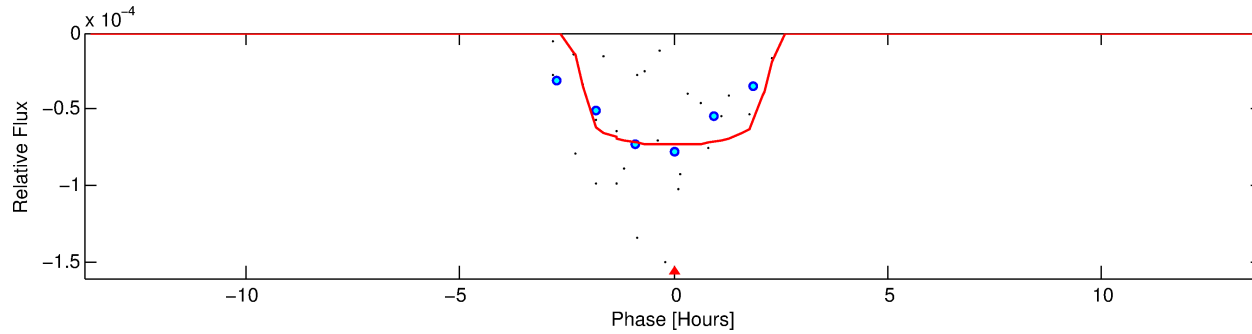
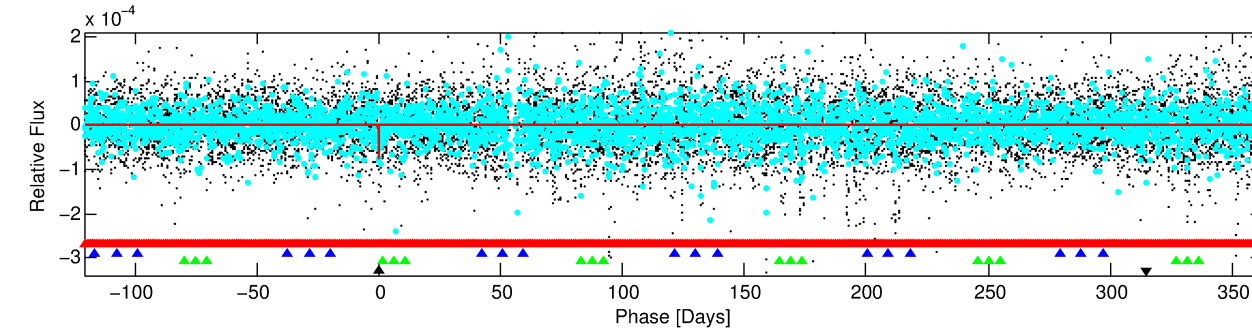
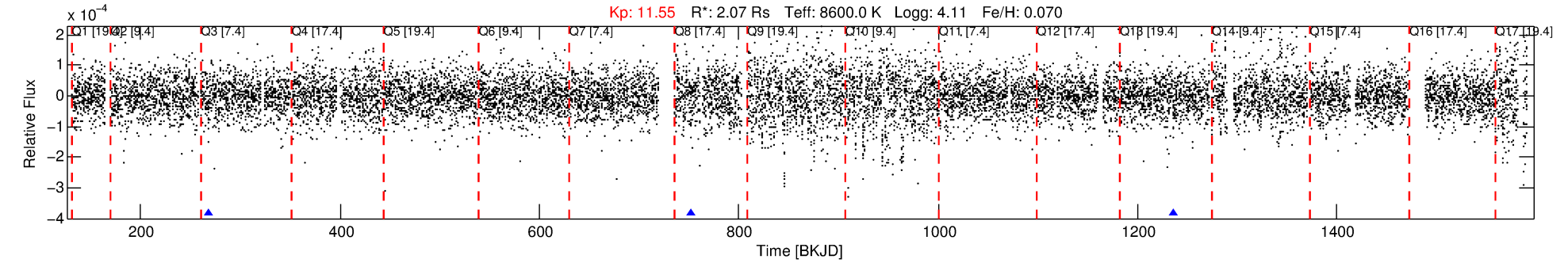
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007907983-04

No Significant Match Found

DV One-Page Summary

KIC: 7907983 Candidate: 4 of 4 Period: 483.789 d



DV Fit Results:

Period = 483.78859 [0.00992] d
Epoch = 267.8745 [0.0095] BKJD
Rp/R* = 0.0090 [0.0156]
a/R* = 382.91 [4516.96]
b = 0.89 [2.80]
Seff = 9.08 [3.10]
Teq = 443 [38] K
Rp = 2.04 [3.57] Re
a = 1.5214 [0.2999] AU
Ag = 9230.58 [32291.62] [0.29 σ]
Teffp = 6708 [5856] K [1.07 σ]

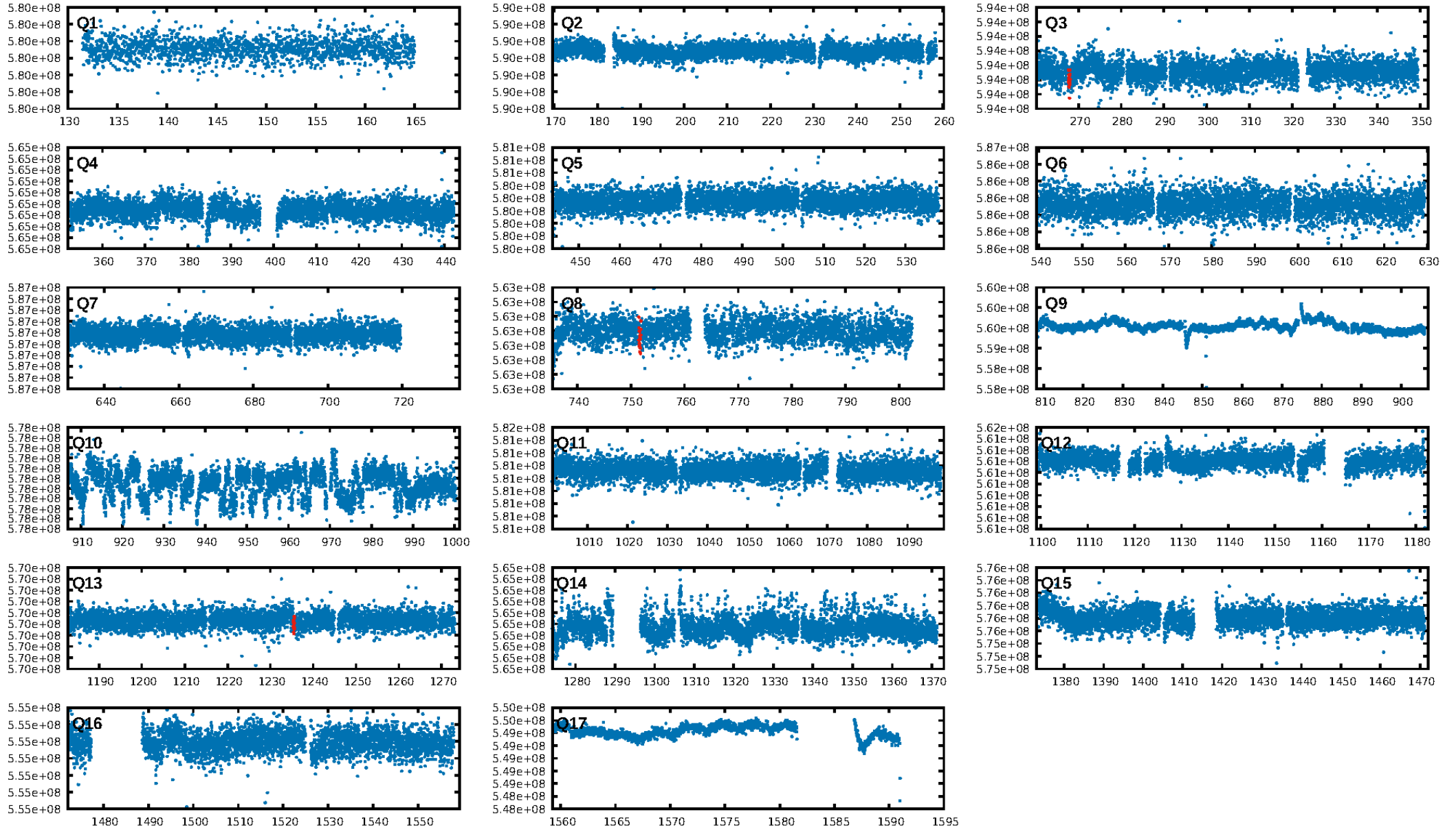
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1959.14 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 87.1%
ModelChiSquareGof-sig: 99.0%
Bootstrap-pfa: 7.43e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 8.355
Centroid-sig: 46.8%
Centroid-so: 1.308 arcsec [0.61 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.00 [0/2]

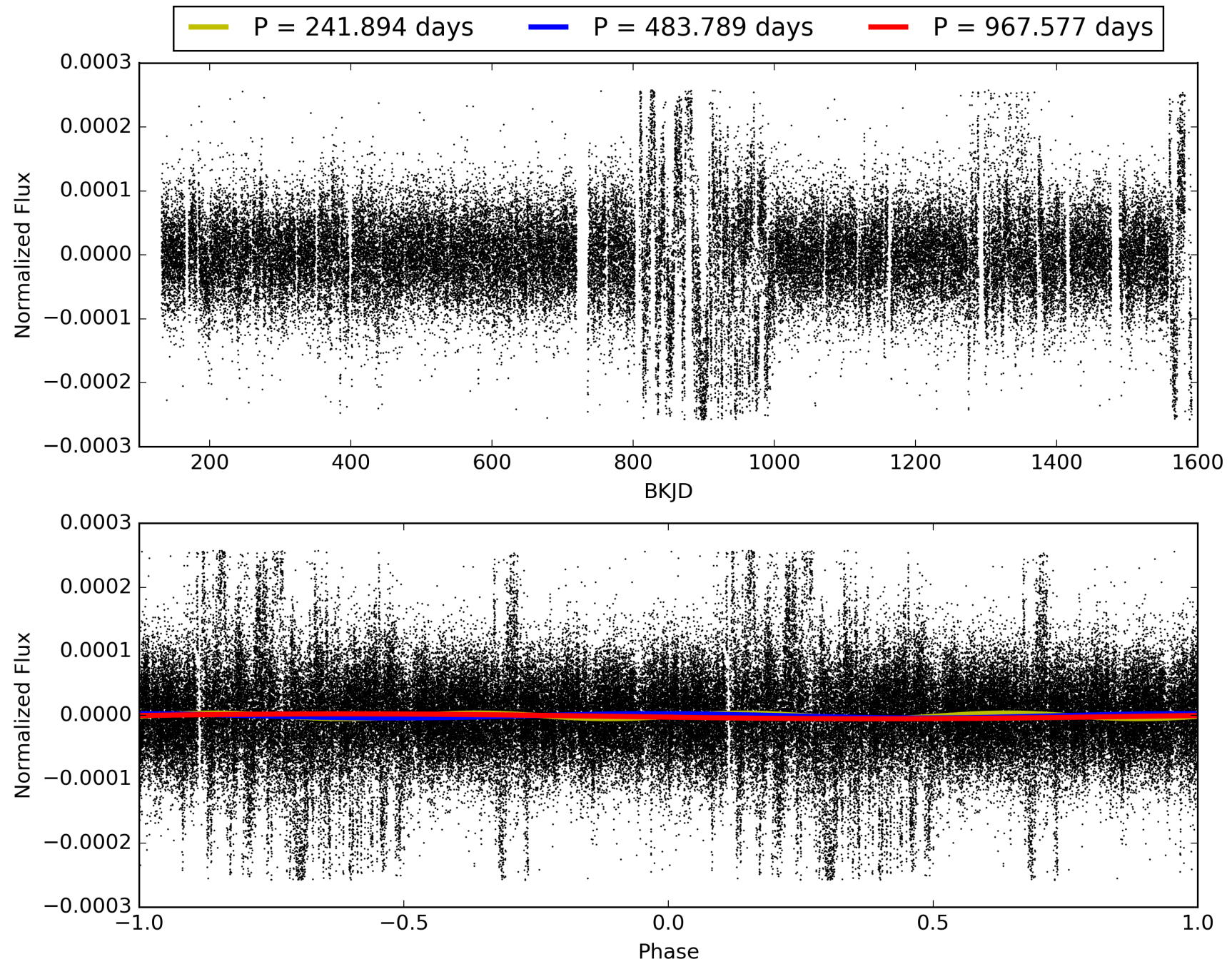
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:11:56 Z

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

TCE 007907983-04, PDC Light Curves

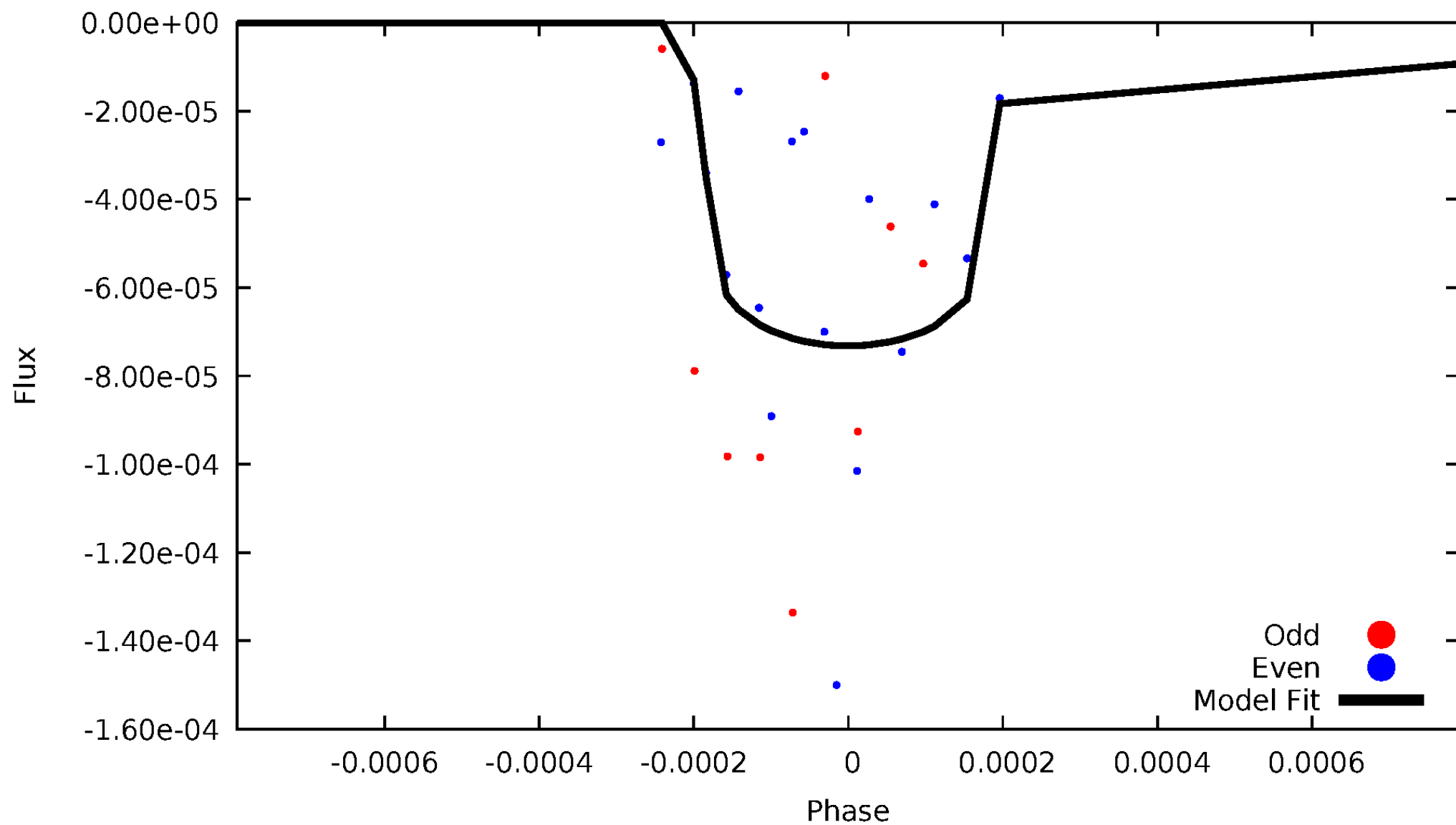


TCE 007907983-04



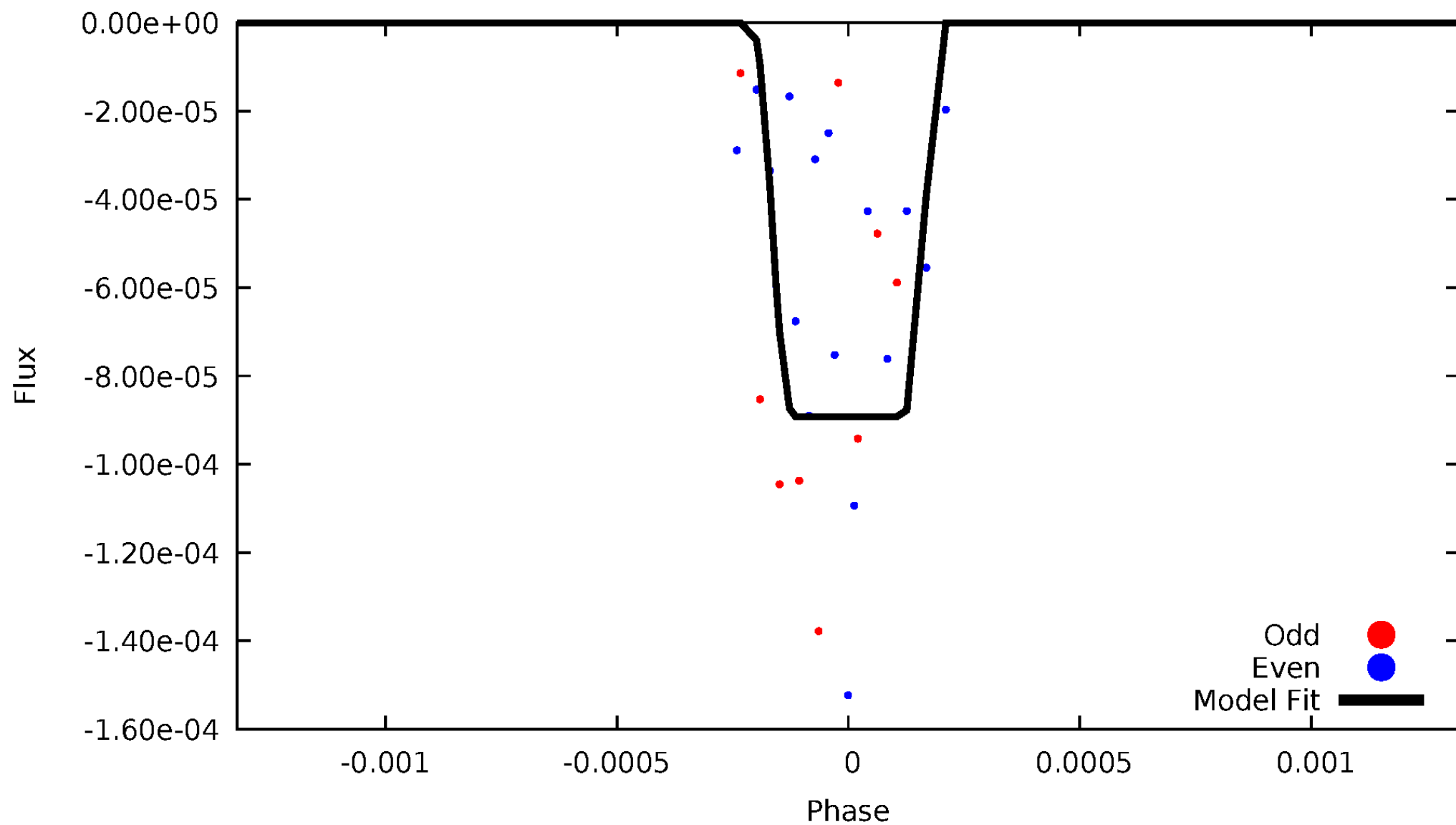
DV Odd/Even

TCE 007907983-04



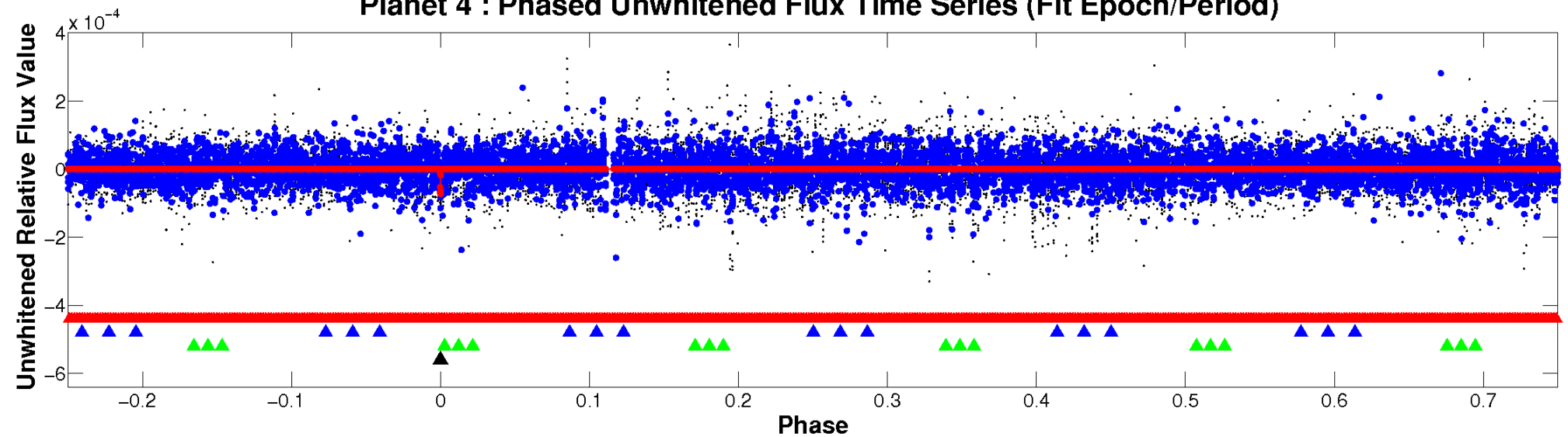
ALT Odd/Even

TCE 007907983-04

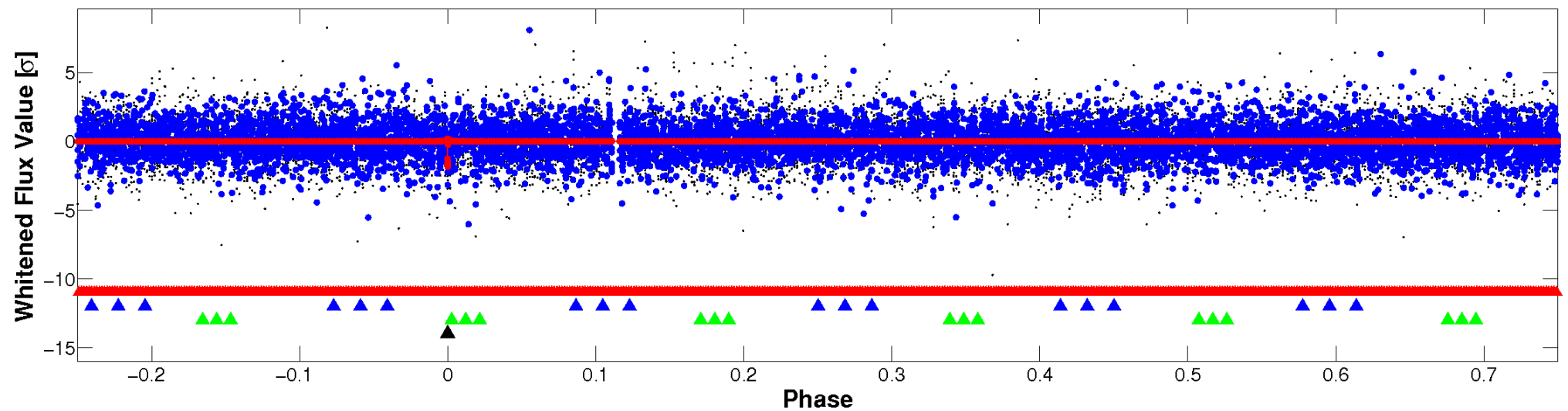


Non-Whitened Vs. Whitened Light Curve

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



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



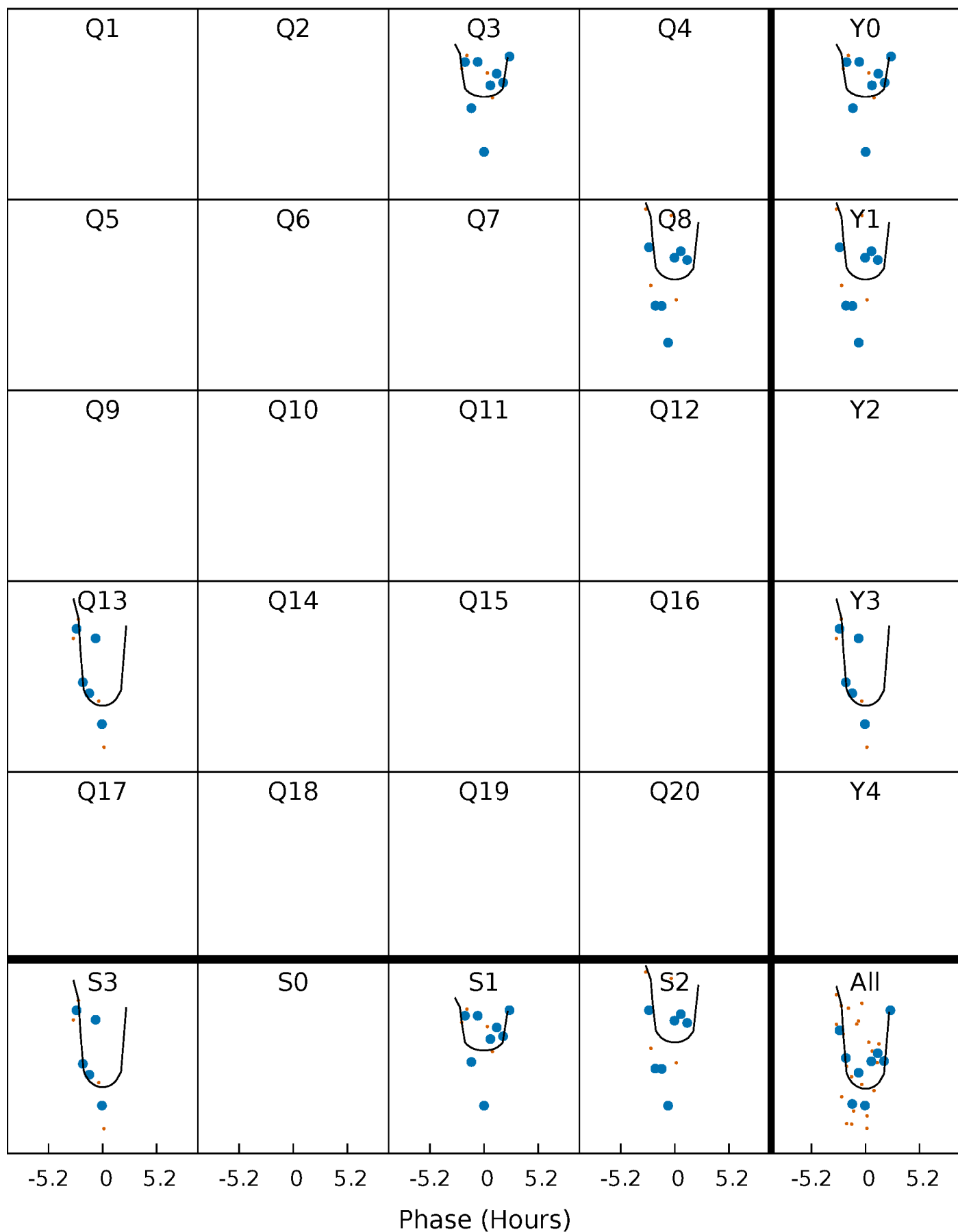
PDC Quarter-Phased Transit Curves

TCE 007907983-04 $P=483.788593$ Days $T_0=267.874492$ (BKJD)



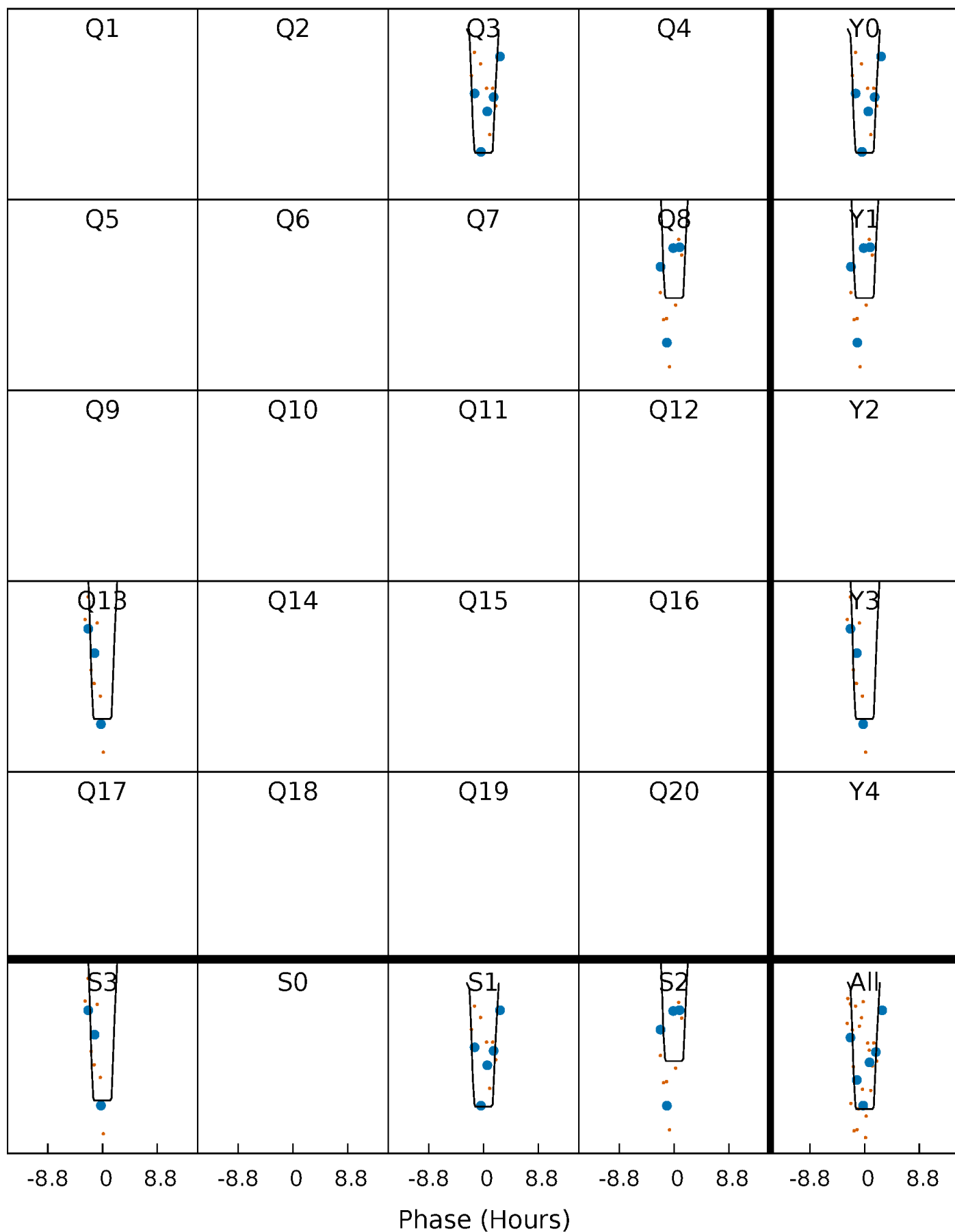
DV Quarter-Phased Transit Curves

TCE 007907983-04 $P=483.788593$ Days $T_0=267.874492$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

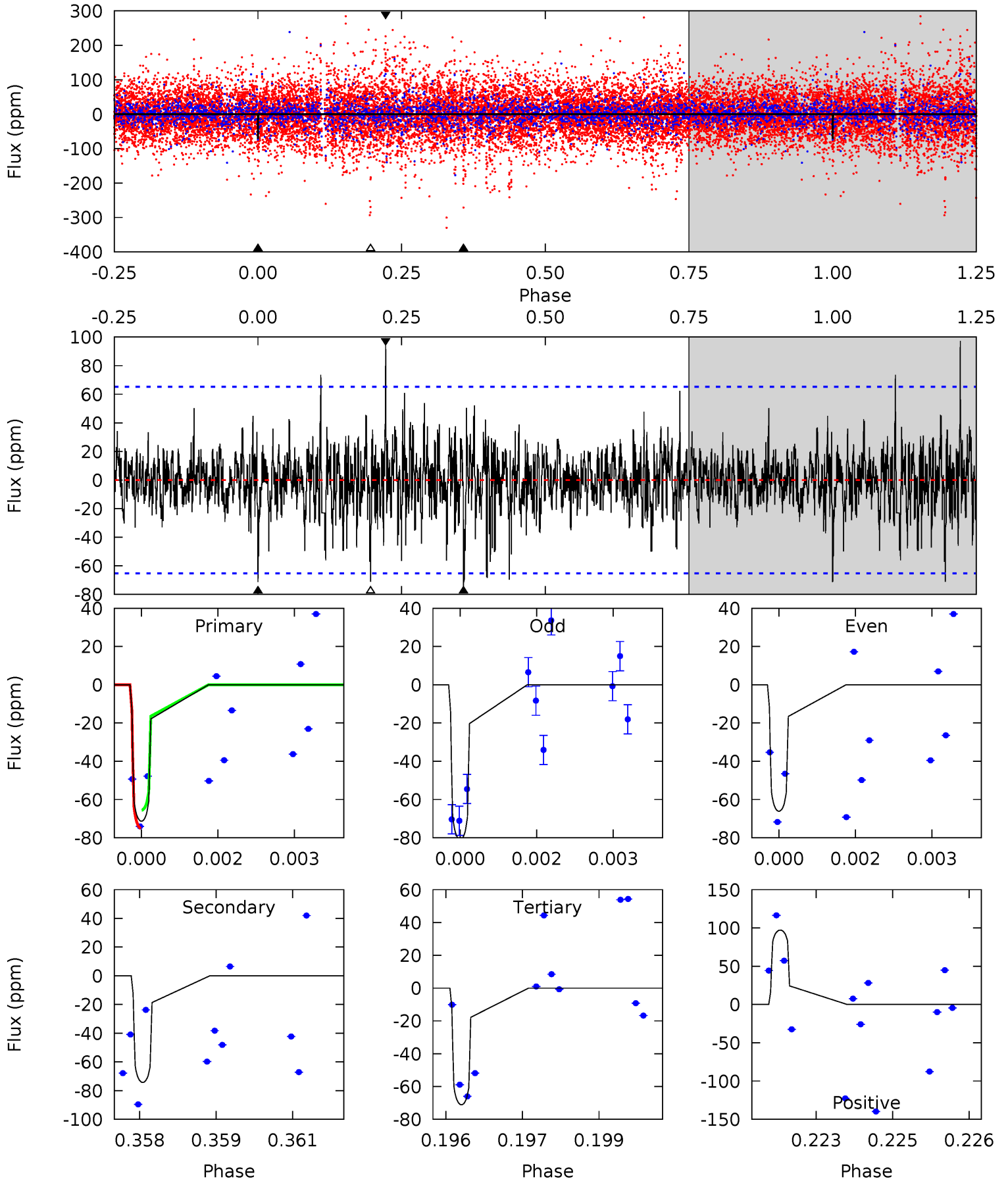
TCE 007907983-04 P=483.791778 Days $T_0=267.867411$ (BKJD)



DV Model-Shift Uniqueness Test

007907983-04, P = 483.788593 Days, E = 267.874492 Days

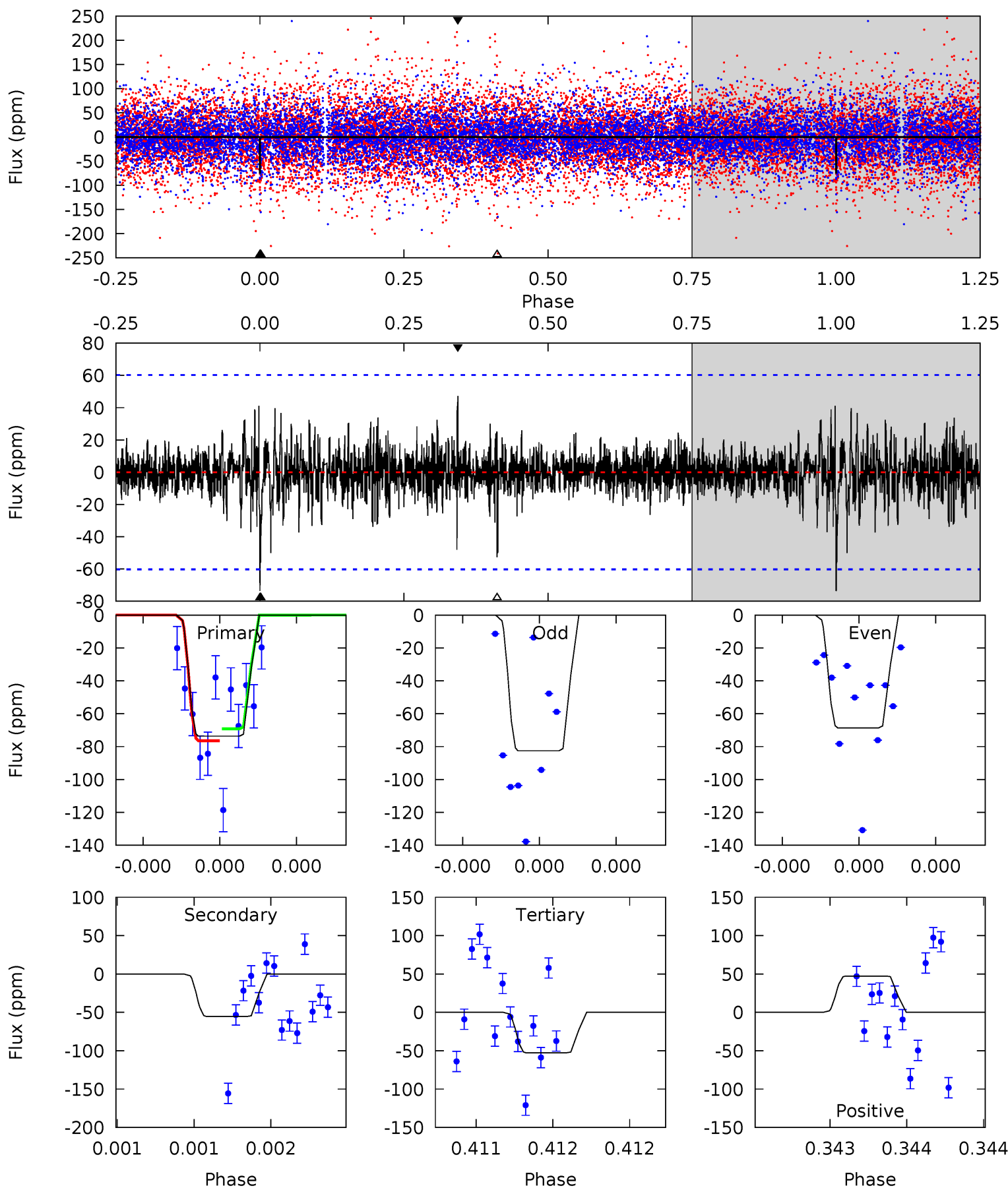
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.87	6.11	5.85	8.00	5.37	3.16	1.41	0.01	-2.13	0.26	-1.88	0.54	1.05	0.57	0.38



Alt Model-Shift Uniqueness Test

007907983-04, P = 483.791778 Days, E = 267.867411 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.85	5.15	4.90	4.40	5.61	3.53	0.92	1.96	2.45	0.25	0.75	0.61	1.01	0.39	0.32



Stellar Parameters For KIC 007907983

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8600^{+236}_{-406}	$4.108^{+0.140}_{-0.154}$	$0.070^{+0.250}_{-0.550}$	$2.071^{+0.490}_{-0.490}$	$2.005^{+0.356}_{-0.435}$	$0.318^{+0.239}_{-0.137}$
	+3%/-5%	+3%/-4%	+357%/-786%	+24%/-24%	+18%/-22%	+75%/-43%
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 007907983-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-74 ± 12	$3.49^{+3.12}_{-2.35}$	622^{+37}_{-44}	6204^{+6380}_{-1555}	7785^{+64914}_{-5645}
Alt.	-55 ± 11	$3.13^{+3.14}_{-1.99}$	619^{+41}_{-42}	5973^{+5180}_{-1520}	6837^{+45768}_{-5118}

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 $A_{obs} \gg 1.0$

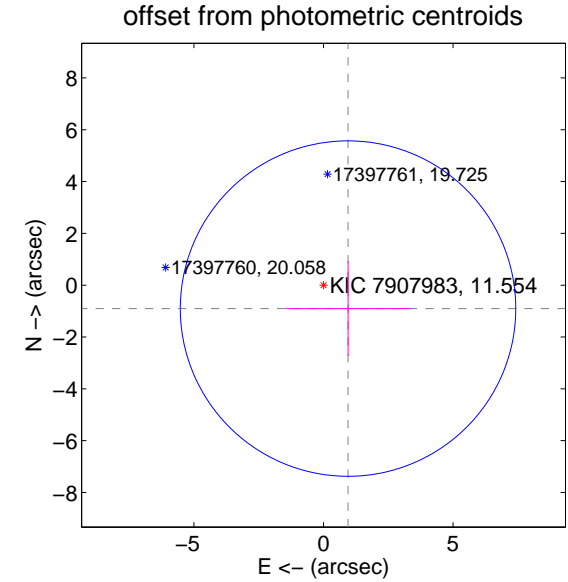
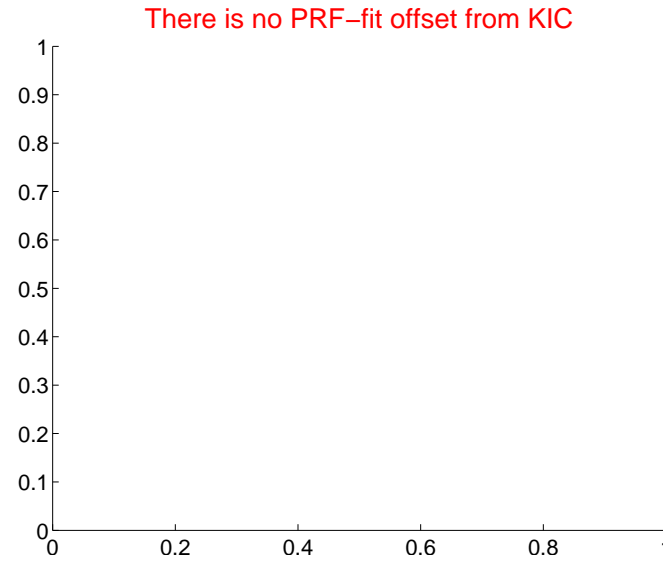
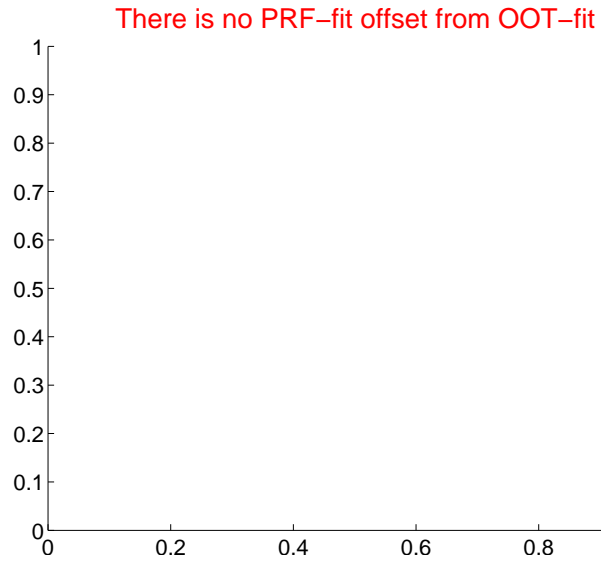
DV Centroid Data

Supplemental centroid analysis for 007907983-04. **Kepler magnitude: 11.55.** Transit SNR 7.51

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	1.31 ± 2.16	0.61	-0.95 ± 2.42	-0.90 ± 1.83

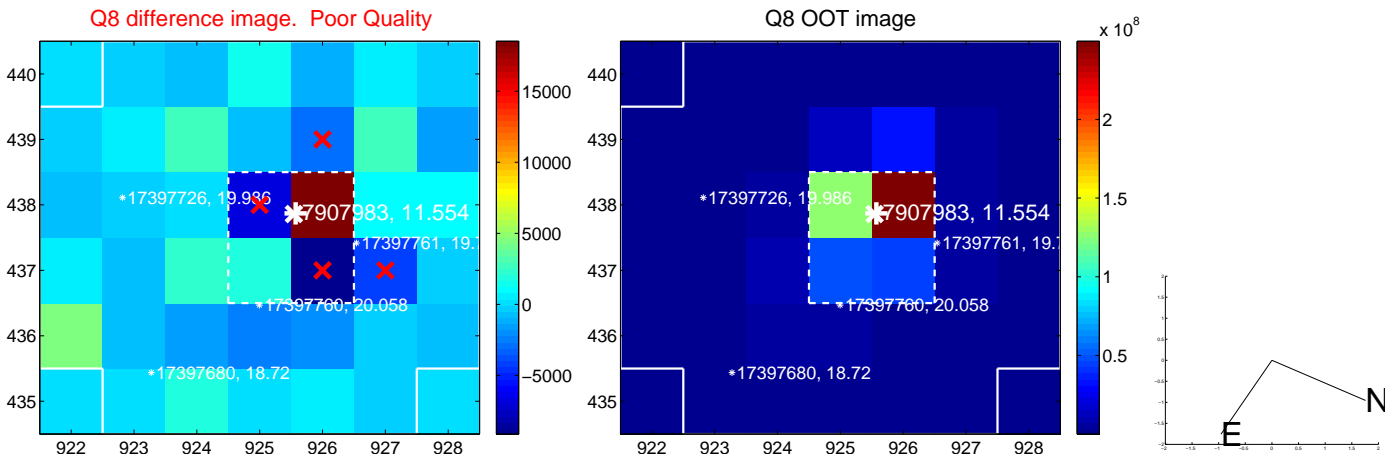


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

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



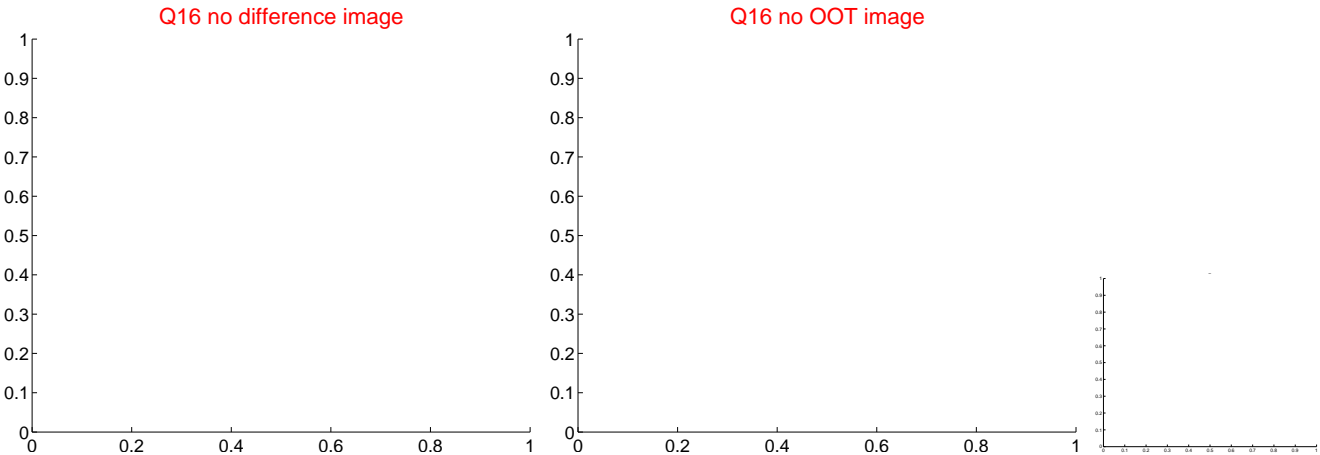
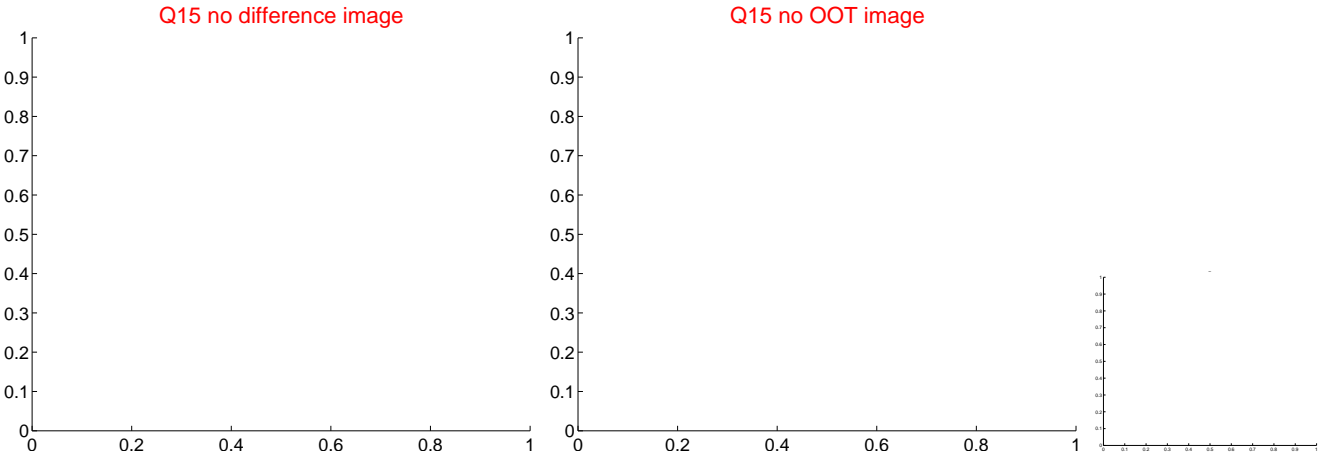
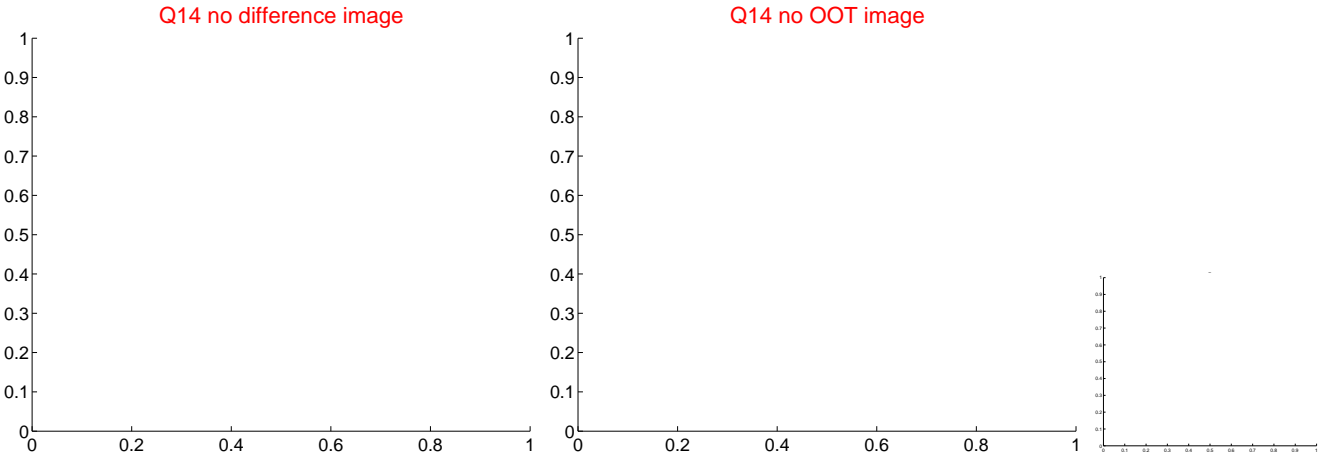
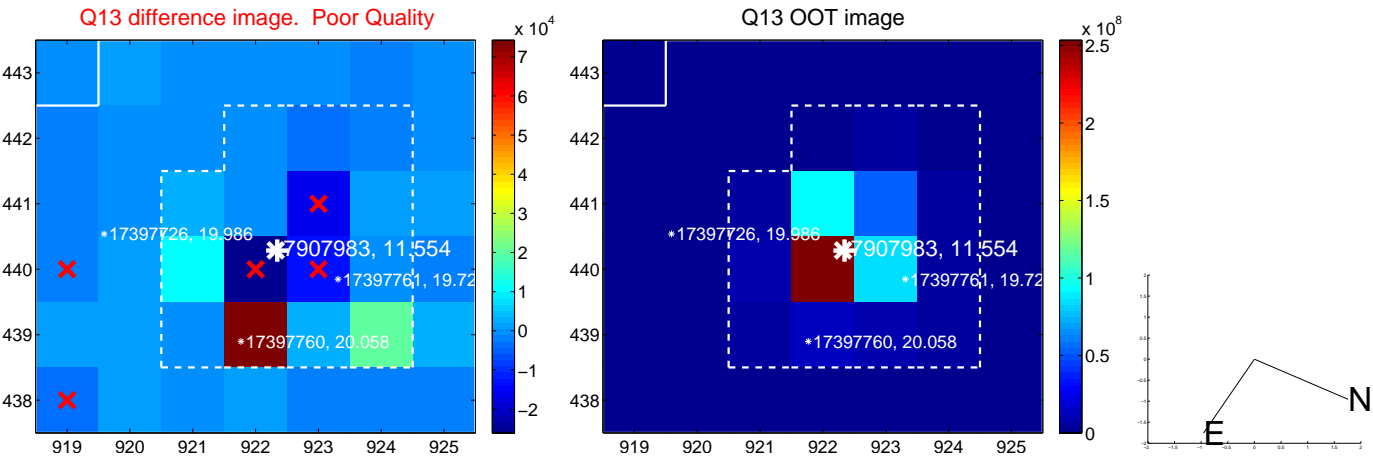
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



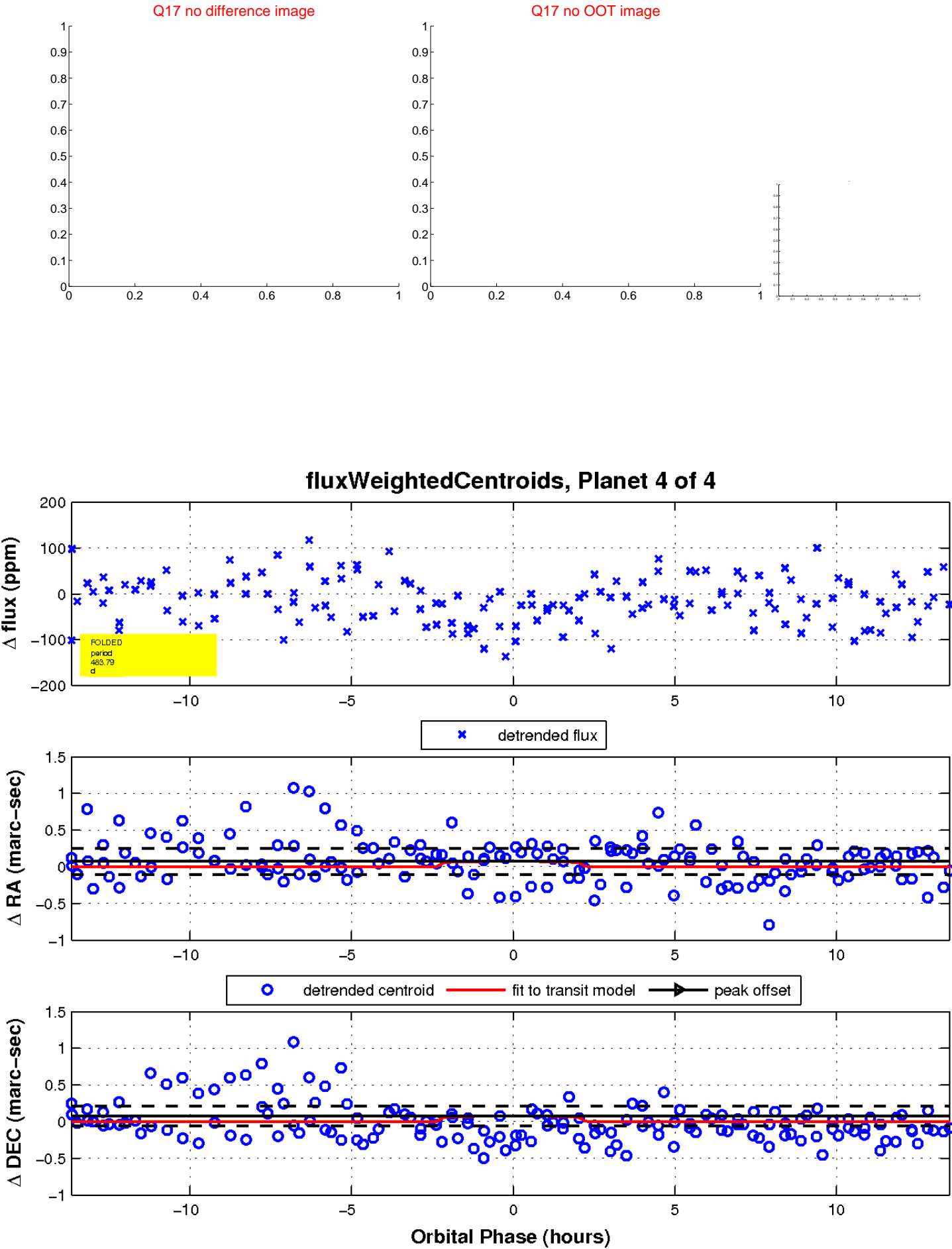
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

