

KIC 011811140

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})
011811140-01	OBS	No	0.807258	132.027011	18.8	4.414	9.4	10.7	3.66	7076	1.68	67675.13
011811140-02	OBS	No	111.100730	216.201662	225.8	3.240	8.9	8.8	3.66	7076	6.00	95.24
011811140-03	OBS	No	110.664599	224.510088	203.6	2.456	8.8	8.4	3.66	7076	5.93	95.74
011811140-04	OBS	No	142.663359	218.297691	294.8	1.797	8.7	7.6	3.66	7076	6.82	68.24
011811140-05	OBS	No	83.860304	199.528002	210.3	3.341	8.4	8.4	3.66	7076	5.99	138.58
011811140-06	OBS	No	160.333575	211.811004	217.9	11.065	7.8	9.1	3.66	7076	6.43	58.40
011811140-07	OBS	No	139.061696	200.981521	275.9	1.868	7.9	8.2	3.66	7076	7.07	70.61
011811140-08	OBS	No	104.873512	149.632424	185.2	8.082	7.8	8.2	3.66	7076	6.38	102.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011811140-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
011811140-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
011811140-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011811140-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011811140-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

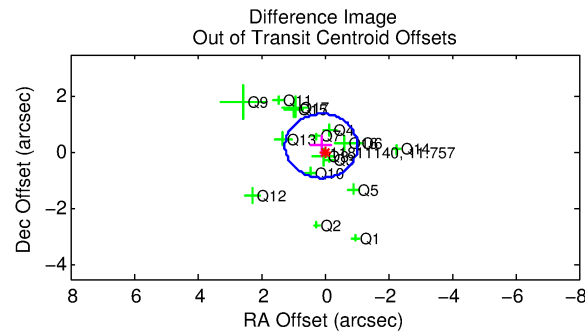
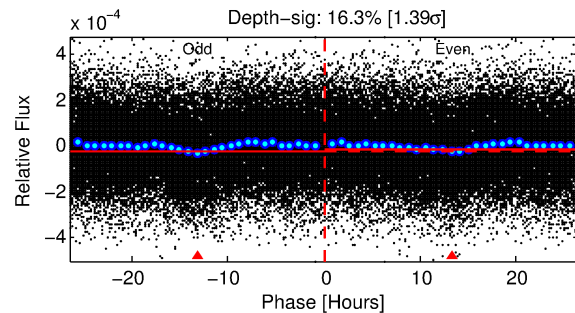
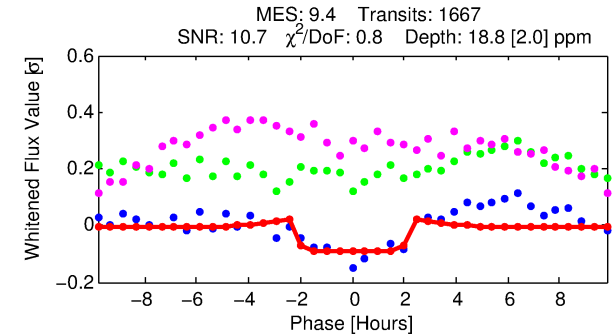
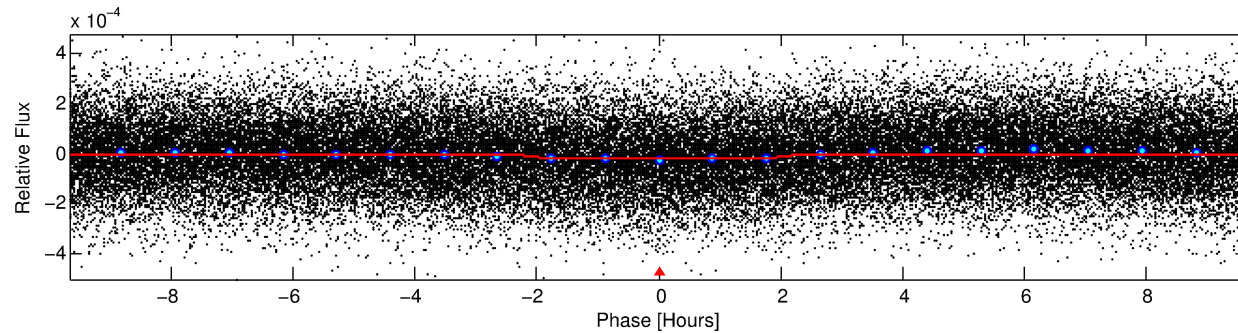
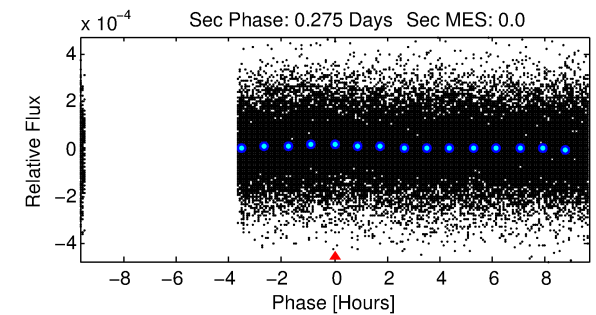
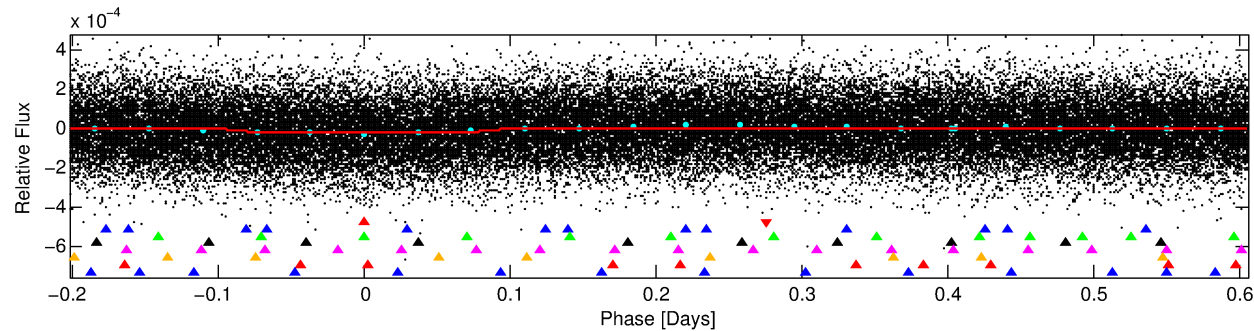
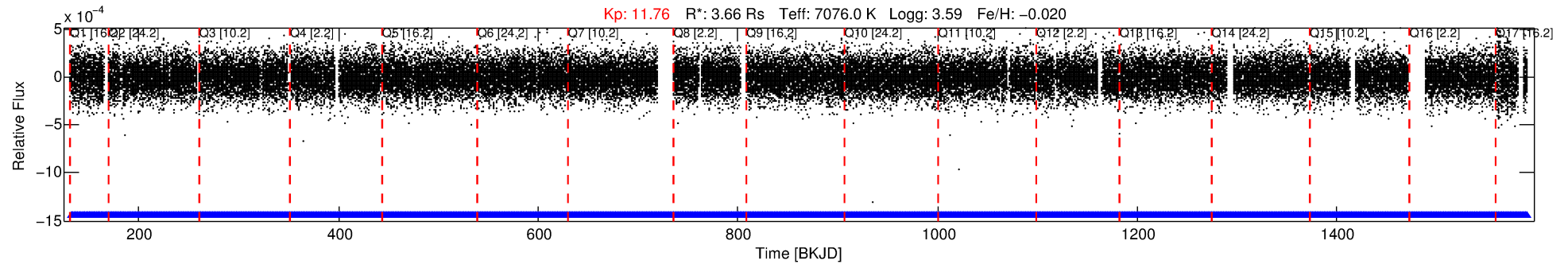
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011811140-01

No Significant Match Found

DV One-Page Summary

KIC: 11811140 Candidate: 1 of 8 Period: 0.807 d



DV Fit Results:

Period = 0.80726 [0.00001] d
Epoch = 132.0270 [0.0029] BKJD
 R_p/R^* = 0.0042 [0.0009]
 a/R^* = 1.34 [0.70]
 b = 0.65 [1.08]
 S_{eff} = 67675.13 [38554.91]
 T_{eq} = 4113 [586] K
 R_p = 1.68 [0.69] R_e
 a = 0.0211 [0.0073] AU
 A_g = N/A
 T_{effp} = N/A

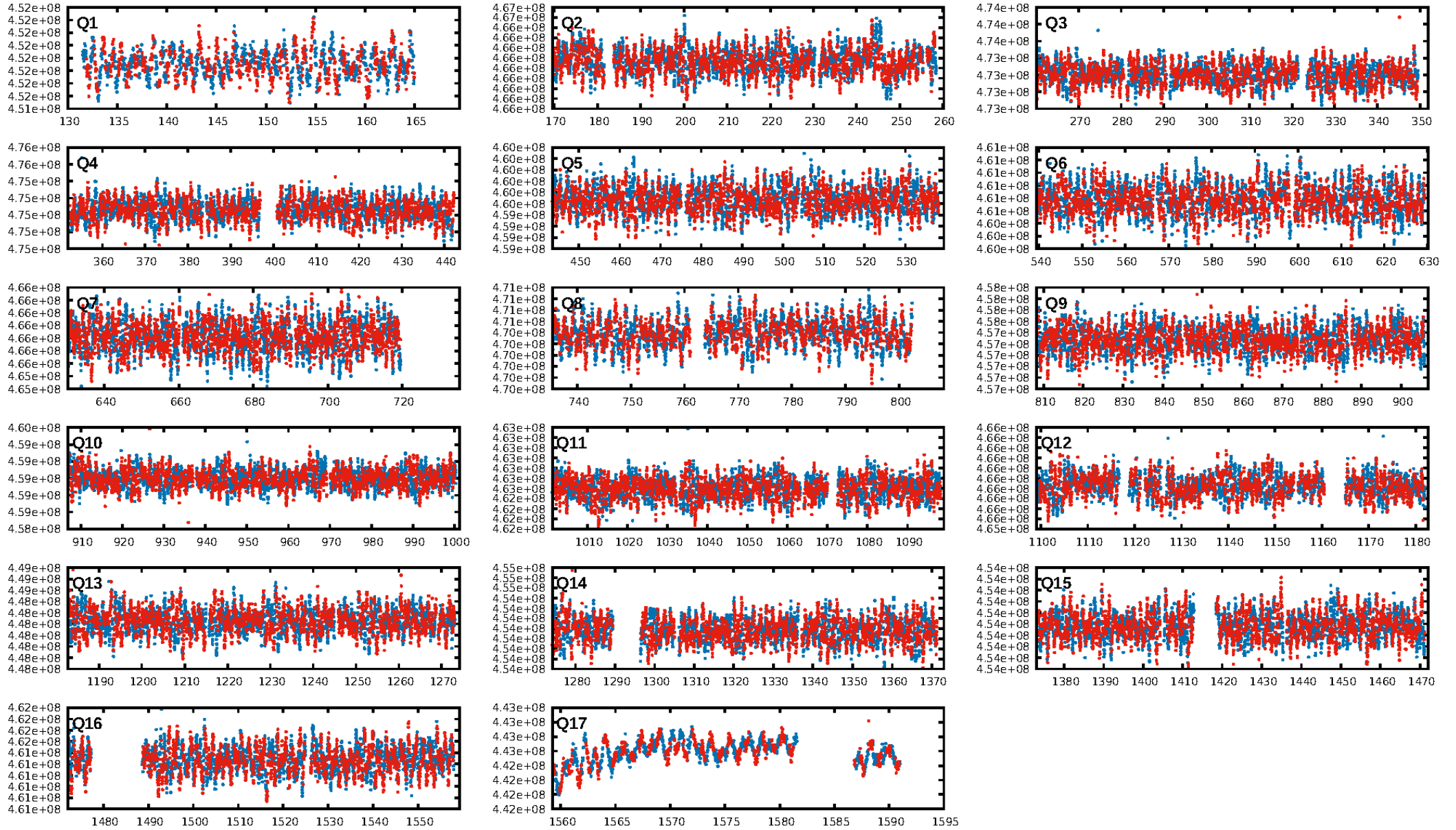
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [360.06σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.08e-14
RollingBand-fgt: 1.00 [1593/1593]
GhostDiagnostic-chr: 4.415
Centroid-sig: 1.6%
Centroid-so: 0.664 arcsec [1.43σ]
OotOffset-rm: 0.261 arcsec [0.68σ]
KicOffset-rm: 0.360 arcsec [0.90σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.76 [13/17]
DiffImageOverlap-fno: 1.00 [17/17]

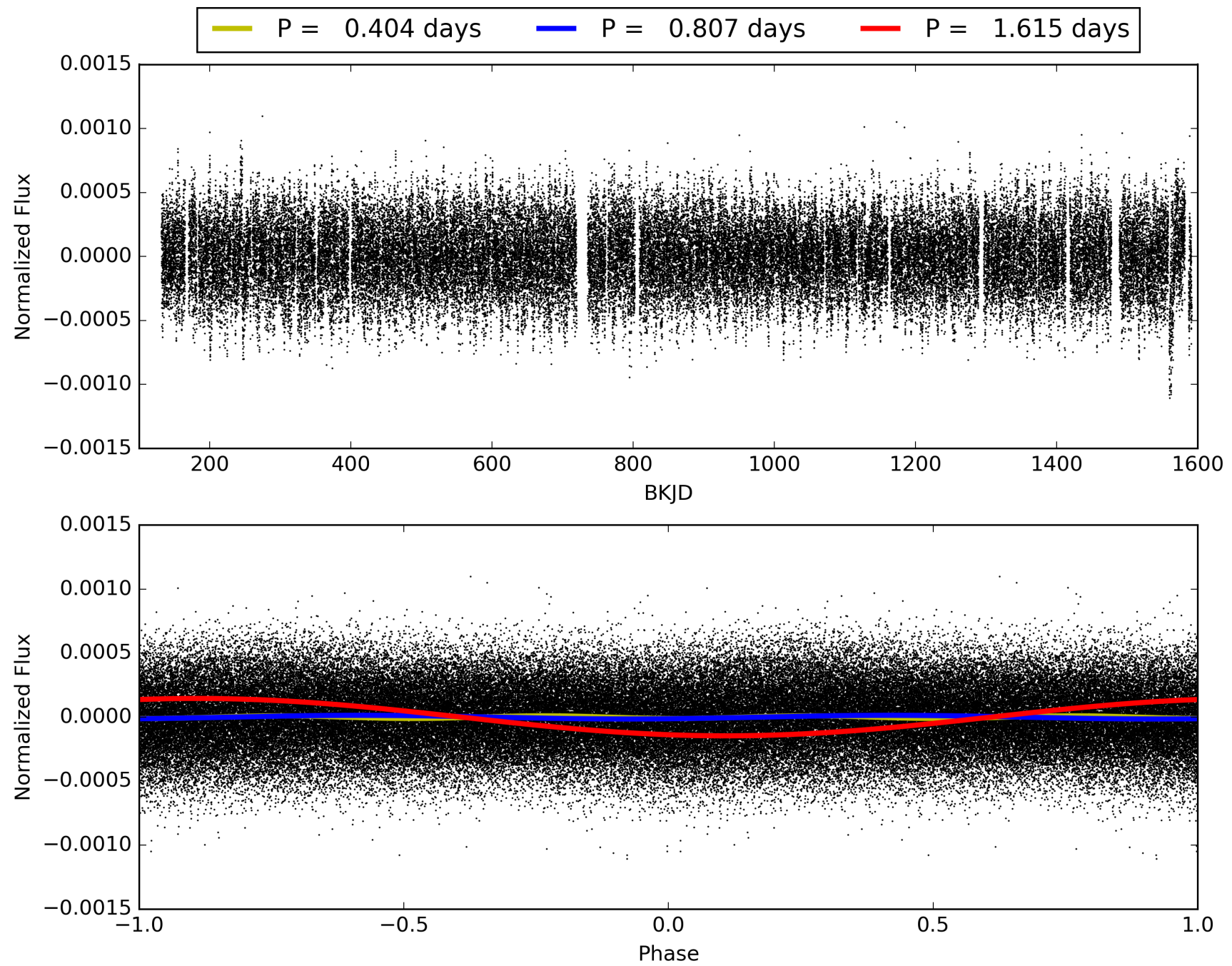
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:05:32 Z

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

TCE 011811140-01, PDC Light Curves

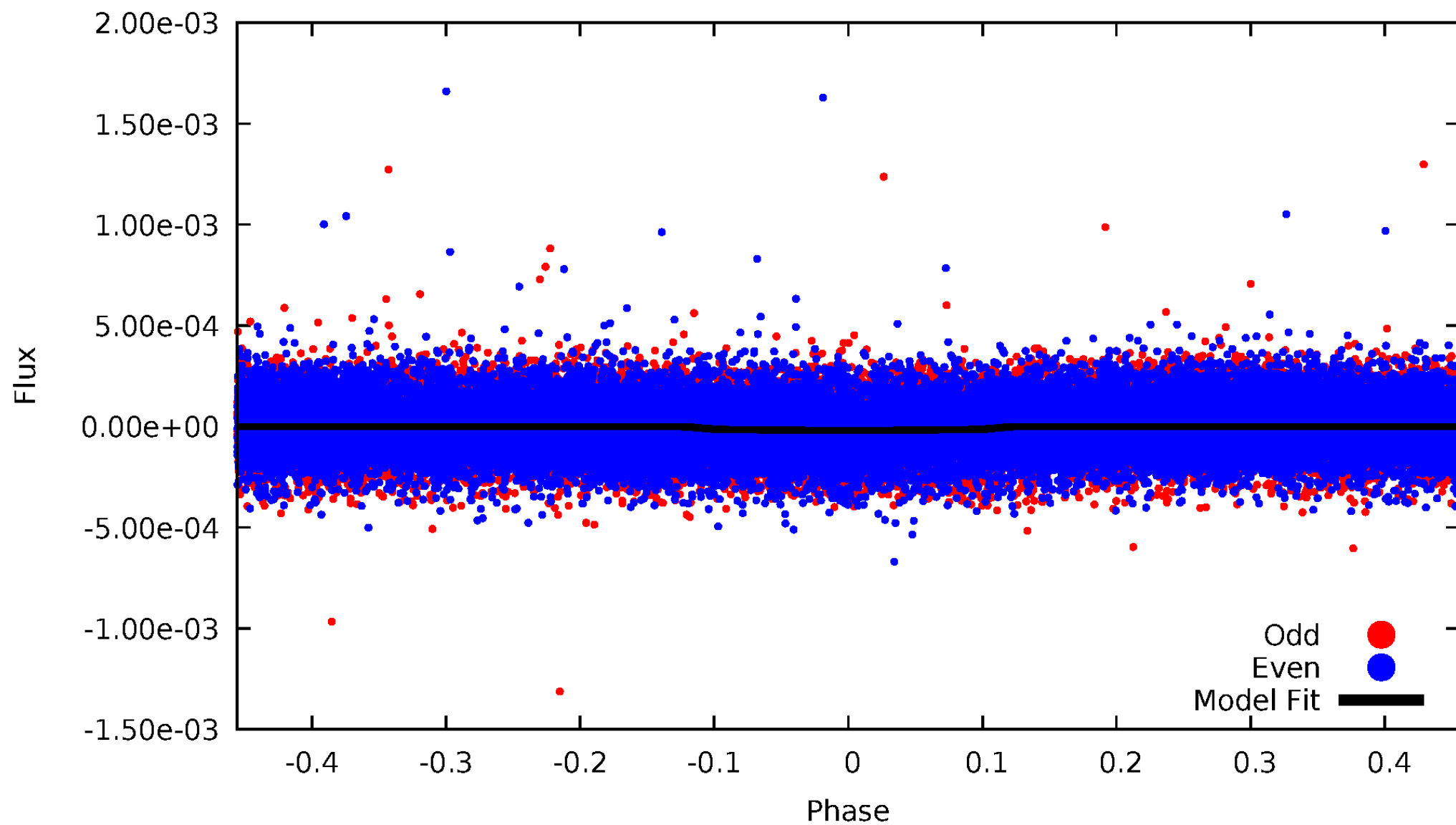


TCE 011811140-01



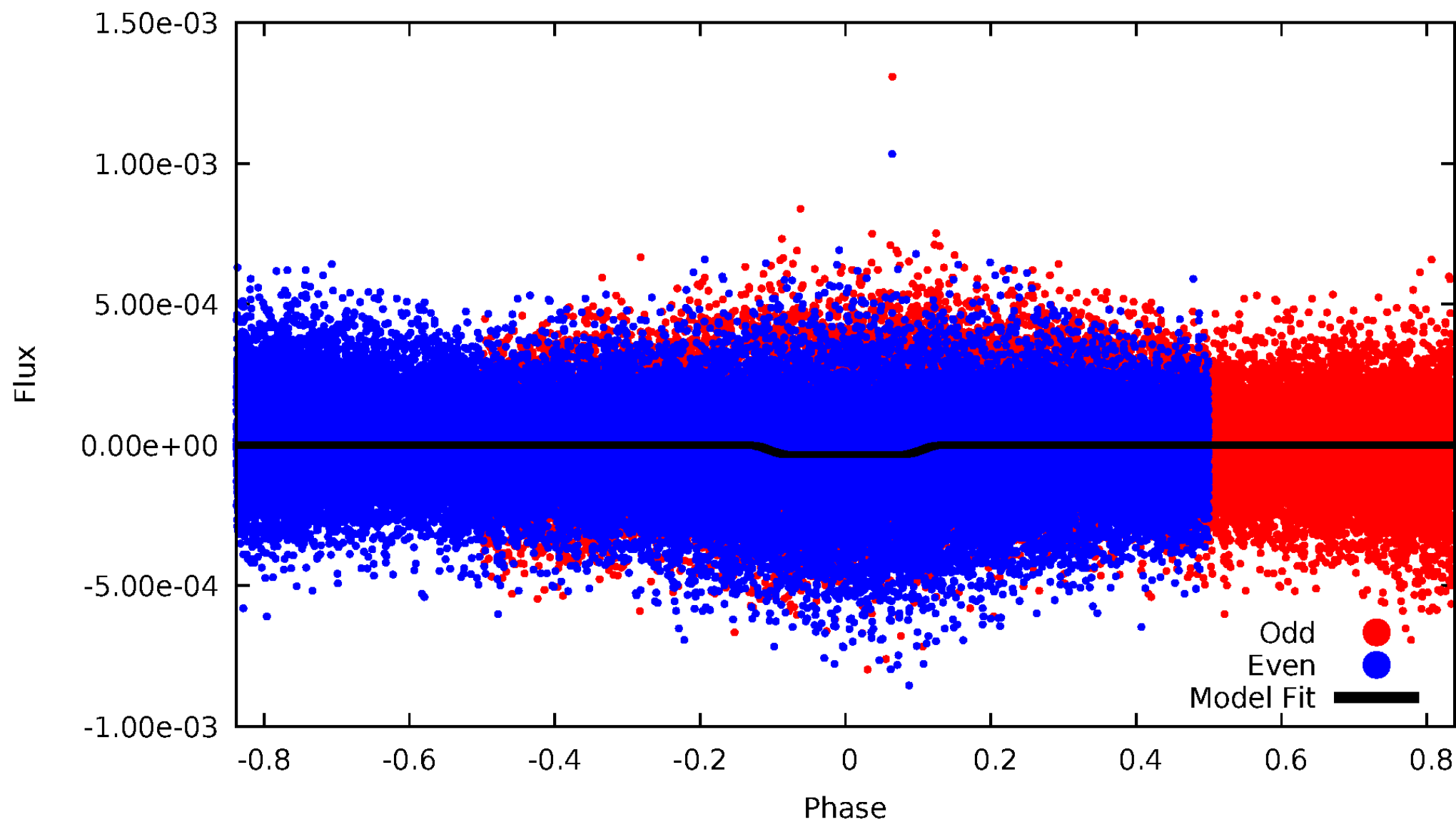
DV Odd/Even

TCE 011811140-01



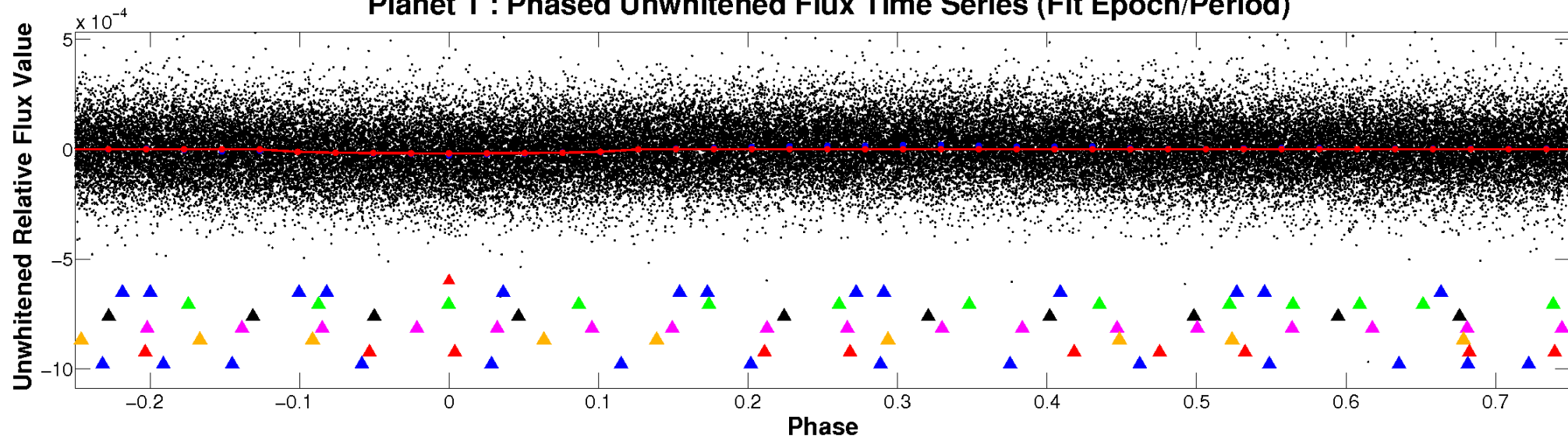
ALT Odd/Even

TCE 011811140-01

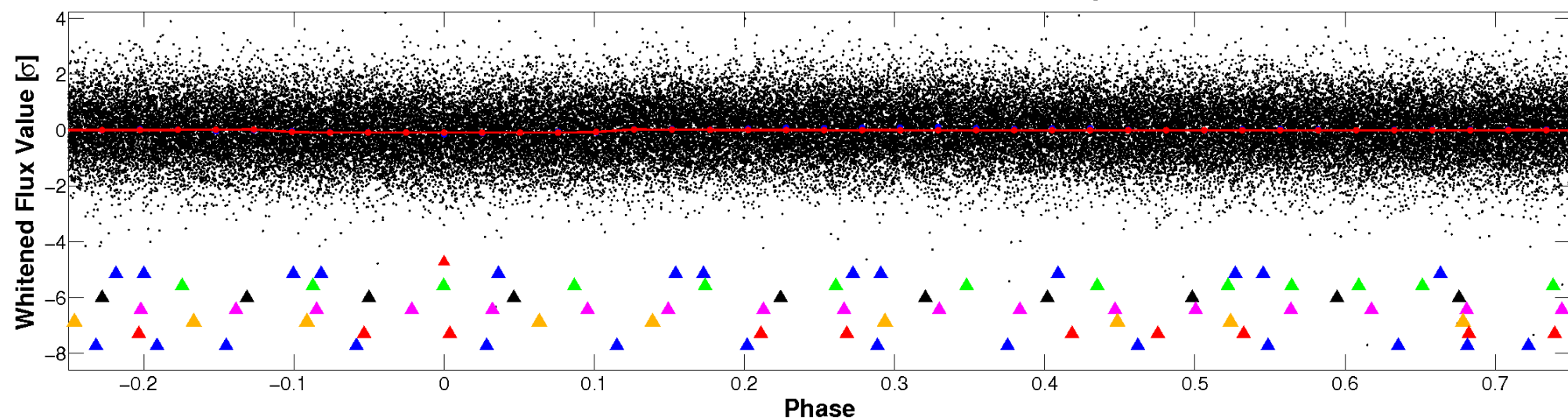


Non-Whitened Vs. Whitened Light Curve

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

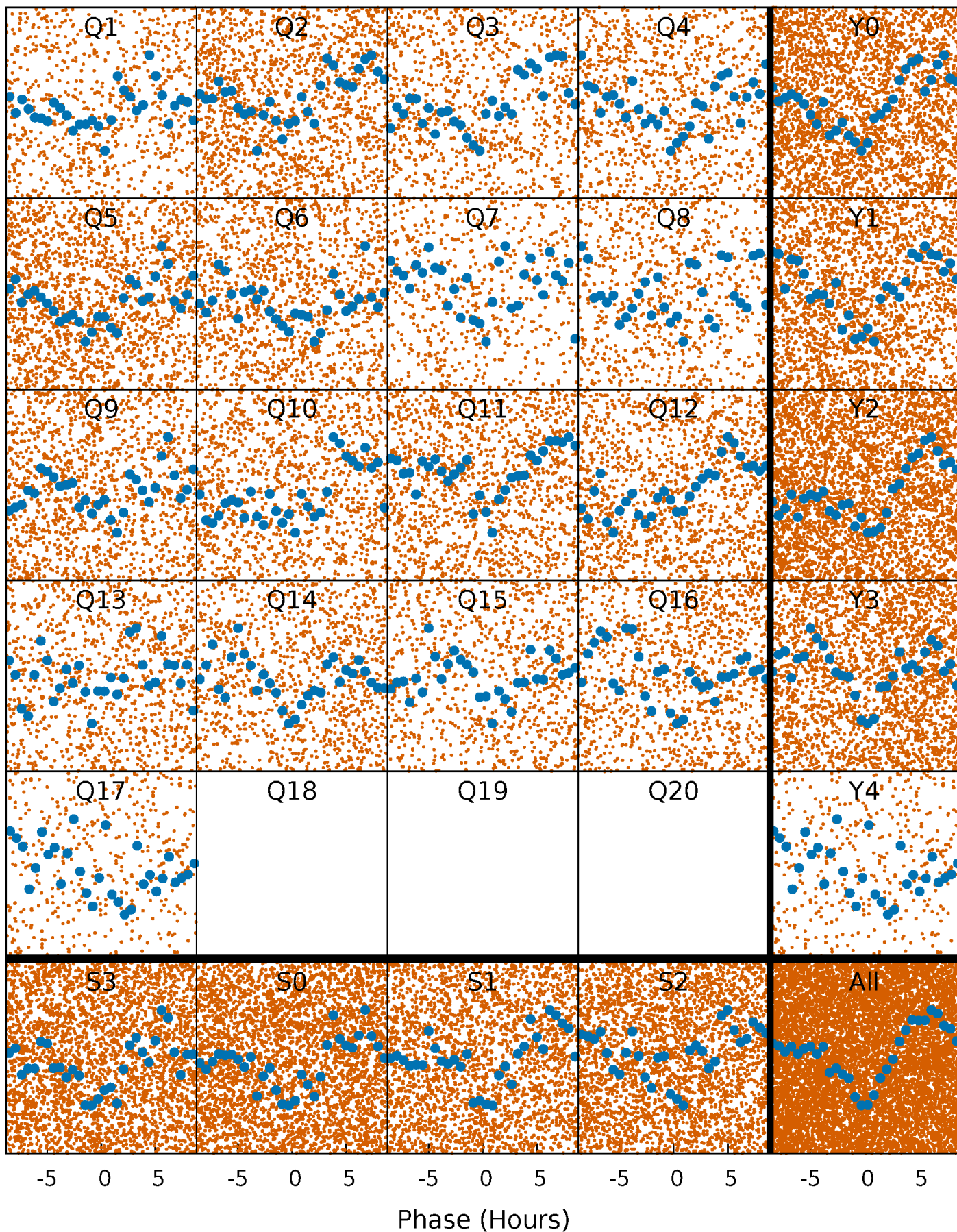


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



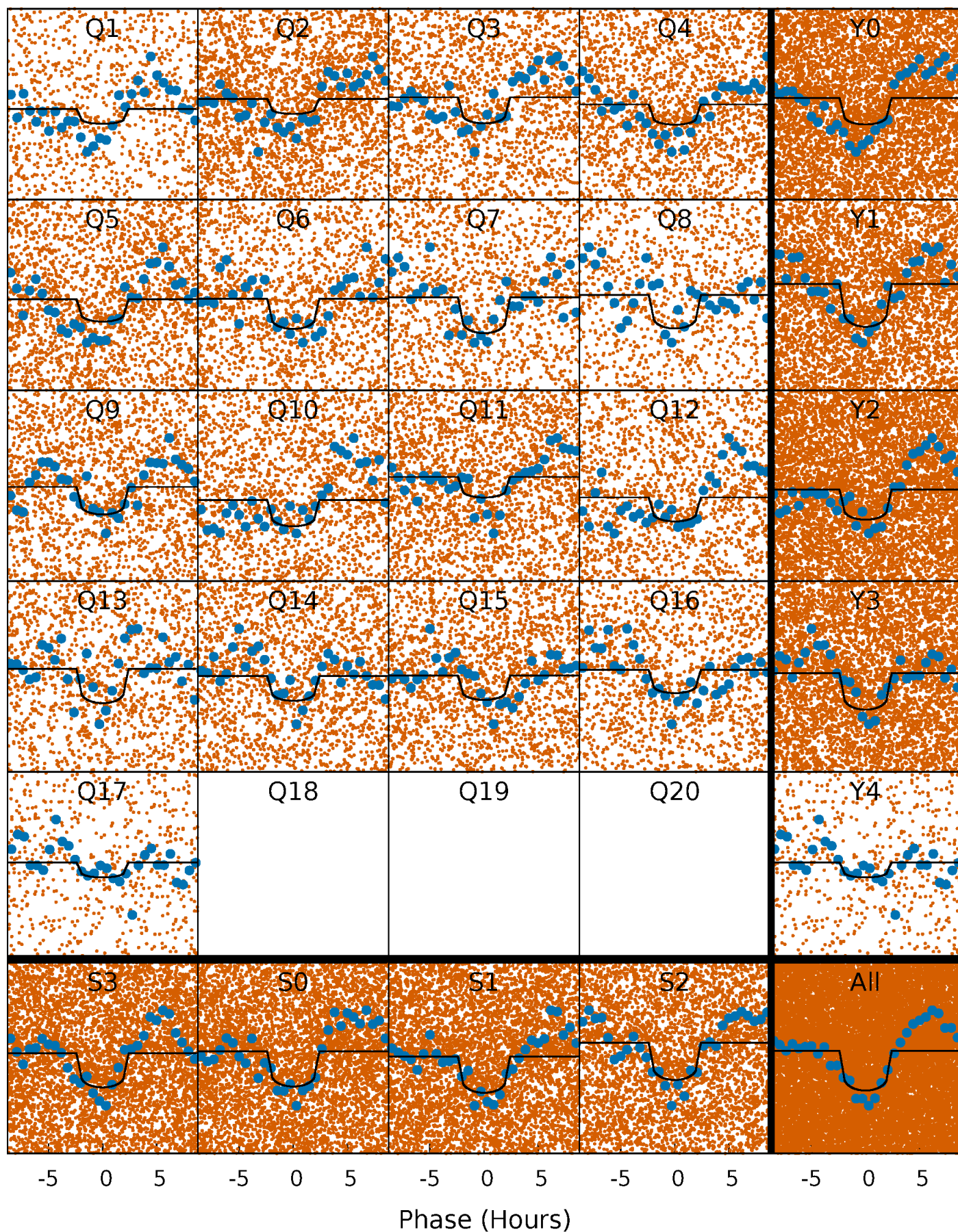
PDC Quarter-Phased Transit Curves

TCE 011811140-01 P= 0.807258 Days $T_0=132.027011$ (BKJD)



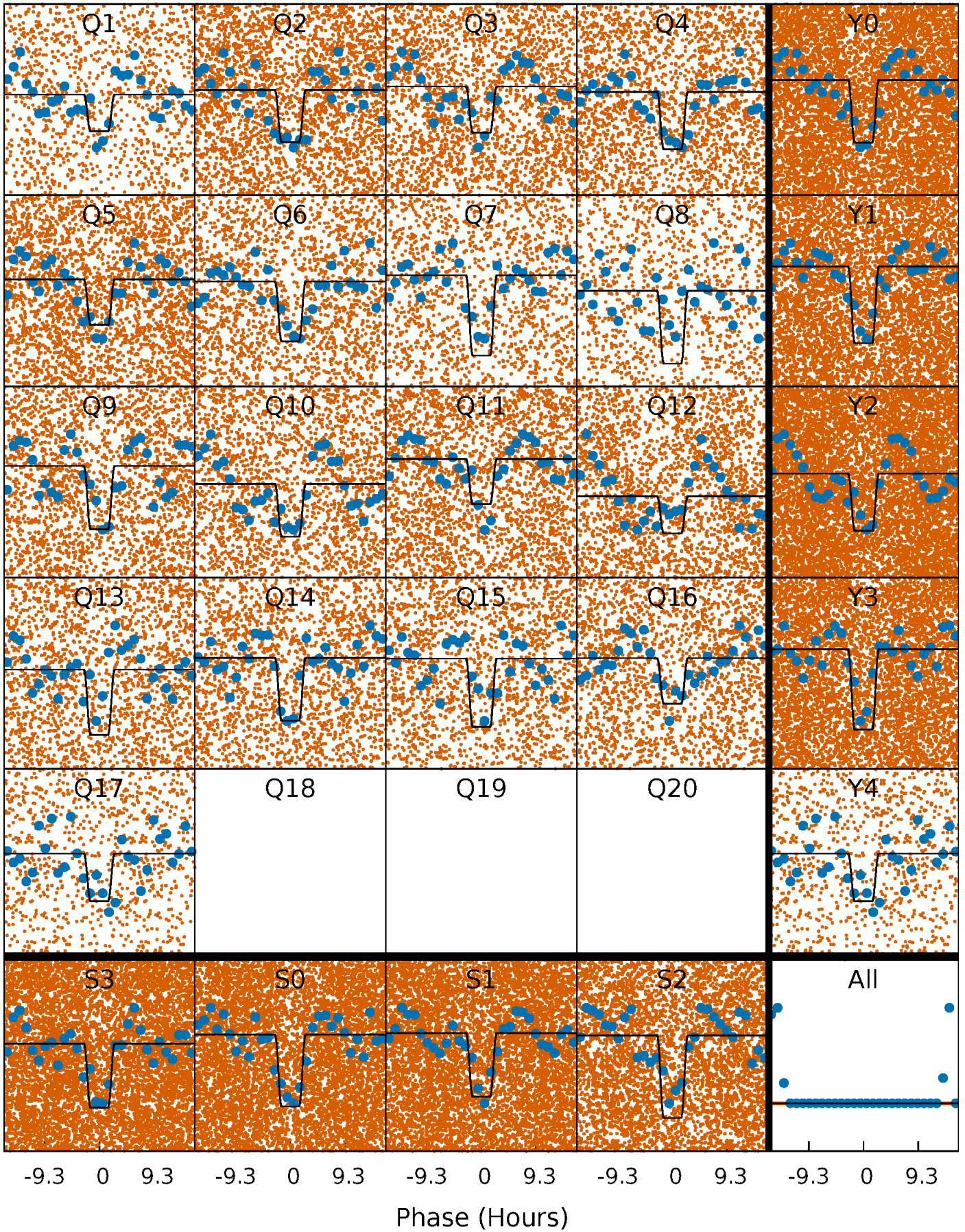
DV Quarter-Phased Transit Curves

TCE 011811140-01 P= 0.807258 Days $T_0=132.027011$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

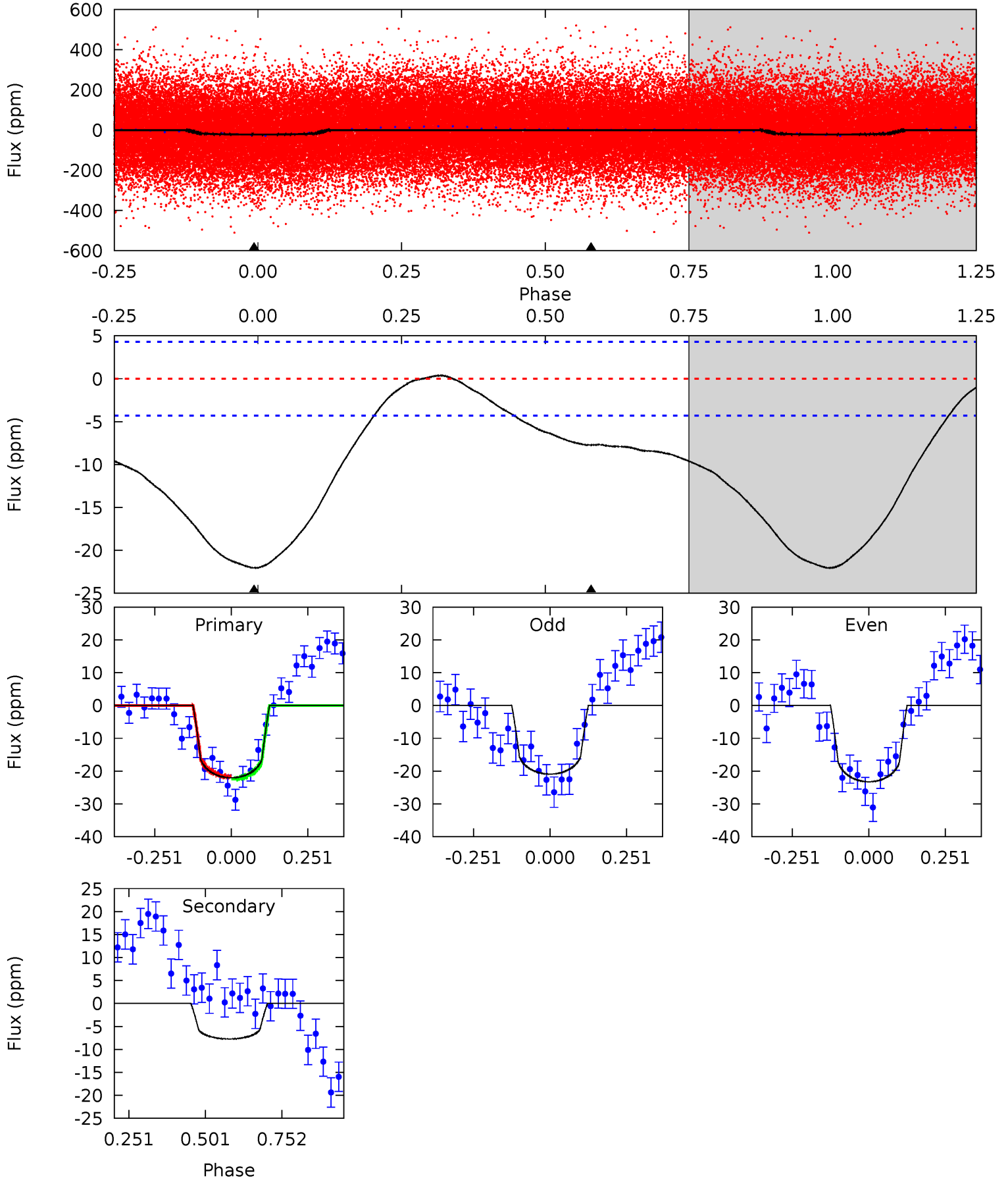
TCE 011811140-01 P= 0.807294 Days $T_0=131.986611$ (BKJD)



DV Model-Shift Uniqueness Test

011811140-01, P = 0.807258 Days, E = 131.219753 Days

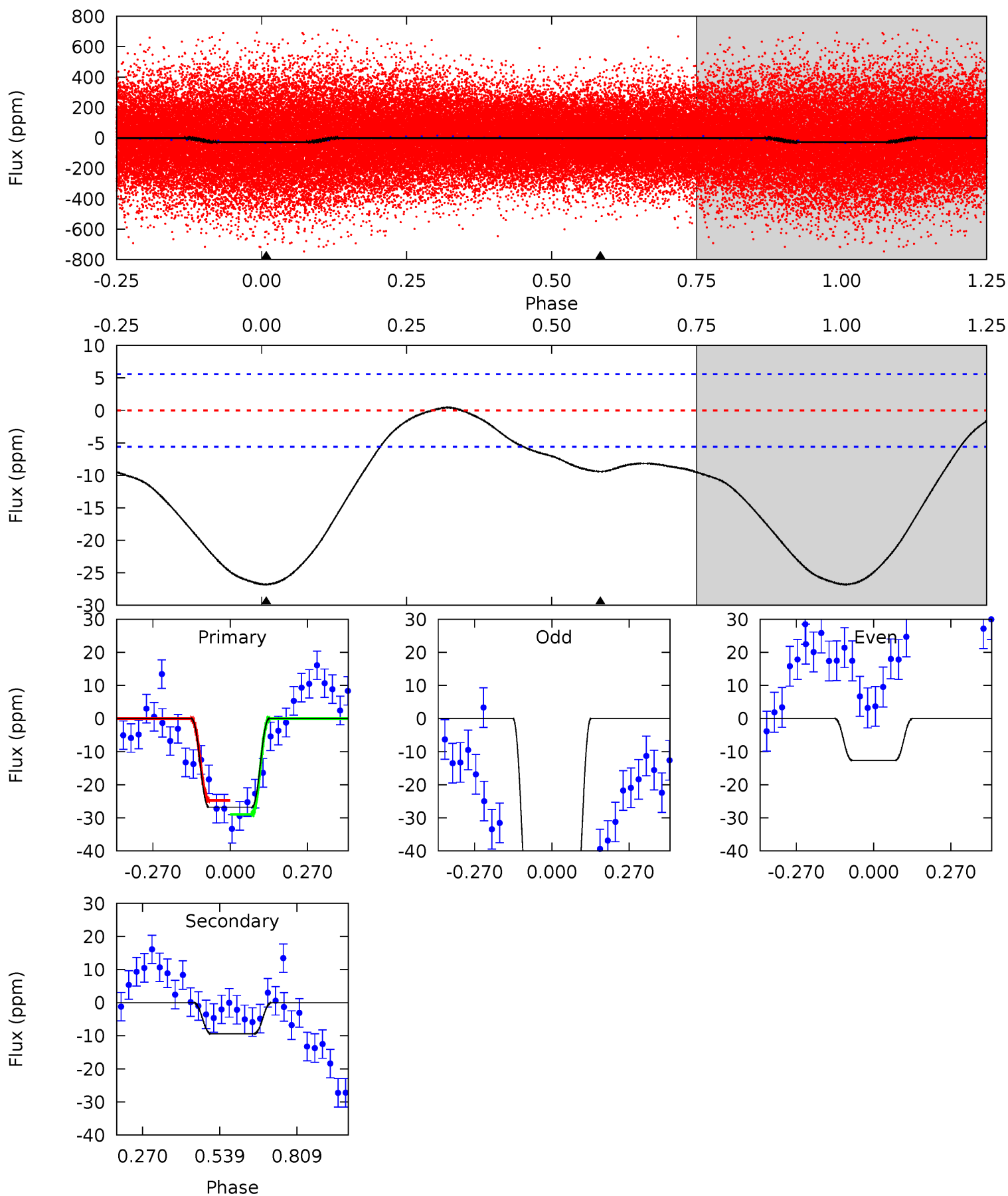
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.3	7.84	0	0	4.37	1.15	0.60	22.3	22.3	7.84	7.84	1.19	1.07	0.02	0.36



Alt Model-Shift Uniqueness Test

011811140-01, P = 0.807294 Days, E = 131.179317 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.9	7.34	0	0	4.35	1.10	0.52	20.9	20.9	7.34	7.34	20.8	0.91	0.02	1.41



Stellar Parameters For KIC 011811140

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7076^{+168}_{-252}	$3.594^{+0.324}_{-0.054}$	$-0.020^{+0.250}_{-0.250}$	$3.661^{+0.327}_{-1.310}$	$1.919^{+0.155}_{-0.336}$	$0.055^{+0.126}_{-0.010}$
	+2%/-4%	+9%/-2%	+1250%/-1250%	+9%/-36%	+8%/-18%	+228%/-18%
Source	PHO1	FLK73	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 011811140-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-8 ± 1	$1.57^{+0.37}_{-0.41}$	5572^{+298}_{-495}	5083^{+859}_{-740}	$0.773^{+0.570}_{-0.270}$
Alt.	-9 ± 1	$2.18^{+0.40}_{-0.48}$	5569^{+305}_{-511}	4262^{+660}_{-1035}	$0.486^{+0.300}_{-0.152}$

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

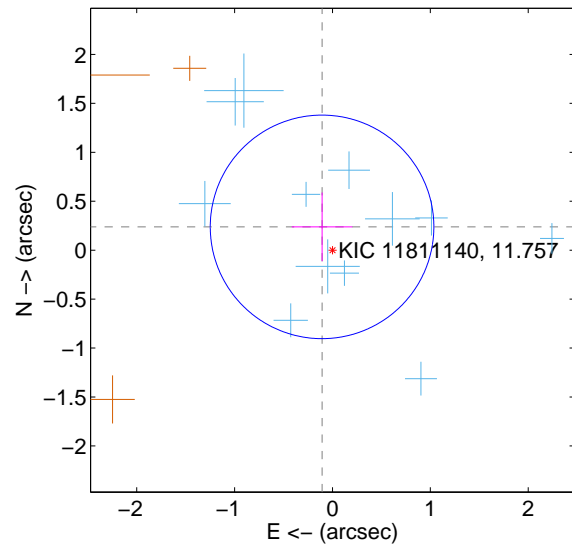
Supplemental centroid analysis for 011811140-01. **Kepler magnitude: 11.76.** Transit SNR 10.73

There are 13 quarters with good PRF difference image offsets

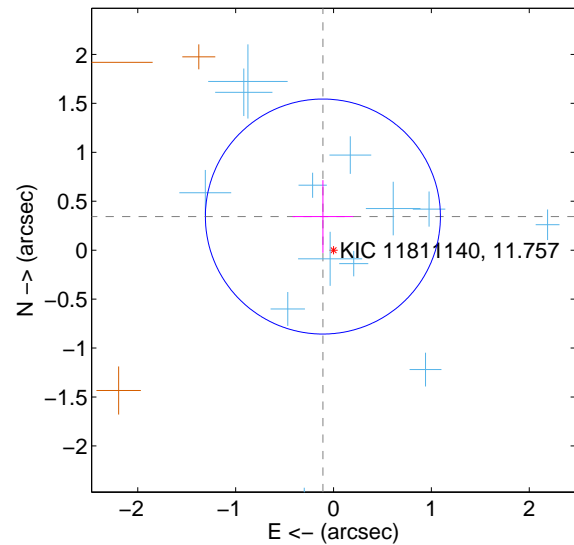
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.261 ± 0.381	0.68	0.106 ± 0.309	0.238 ± 0.351
PRF-fit source offset from KIC position	0.360 ± 0.400	0.90	0.108 ± 0.310	0.344 ± 0.371
photometric centroid source offset	0.66 ± 0.47	1.43	0.19 ± 0.38	-0.64 ± 0.47

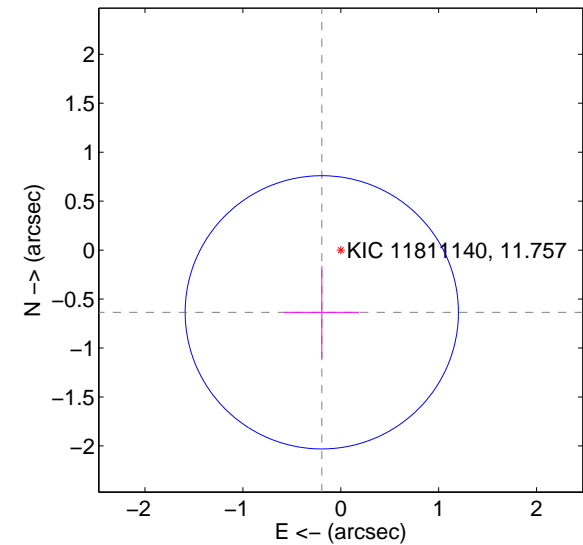
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

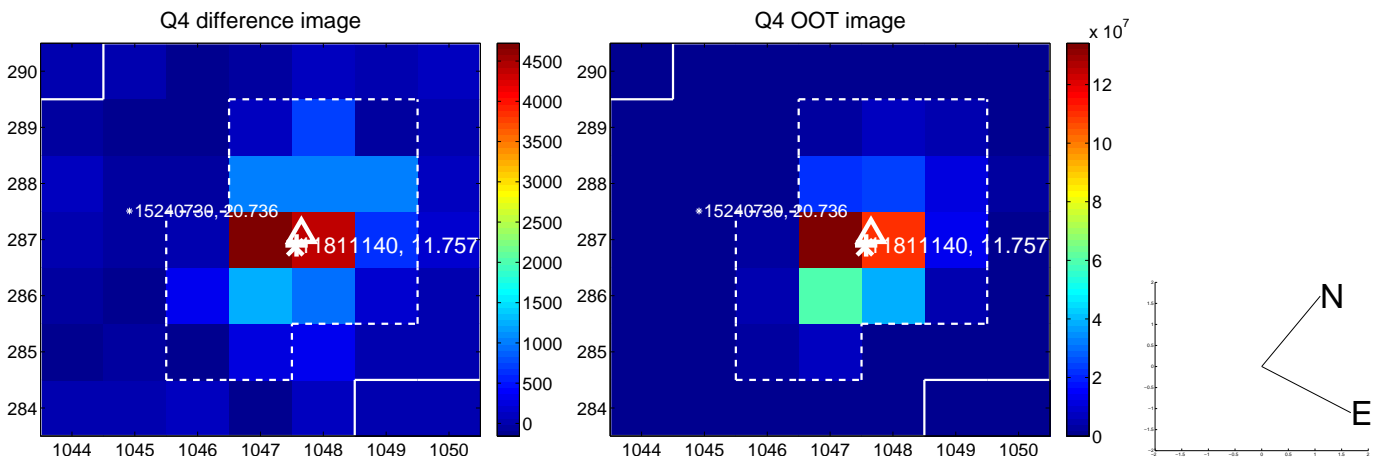
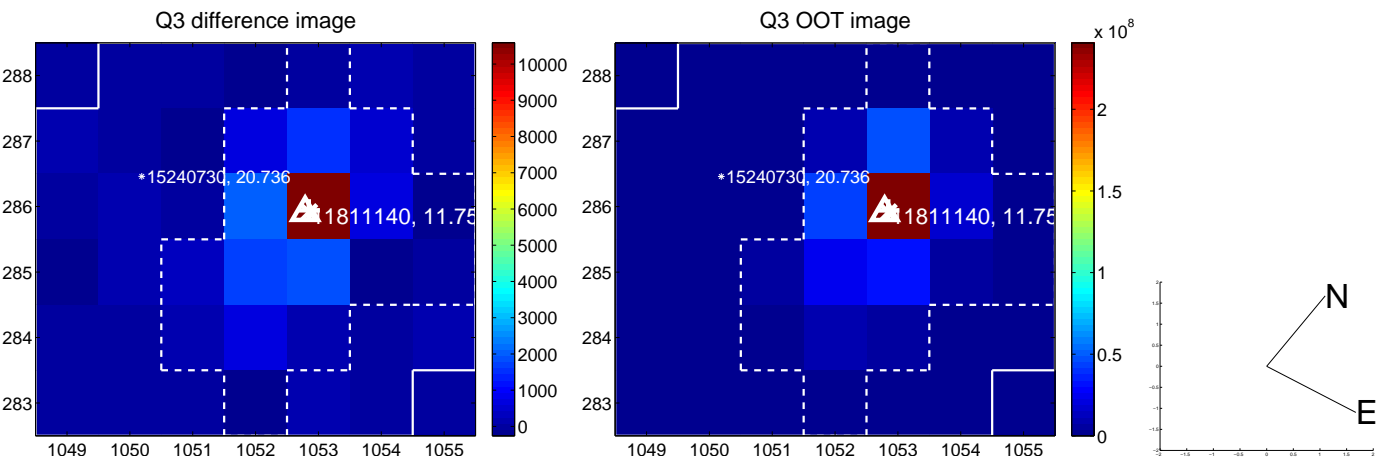
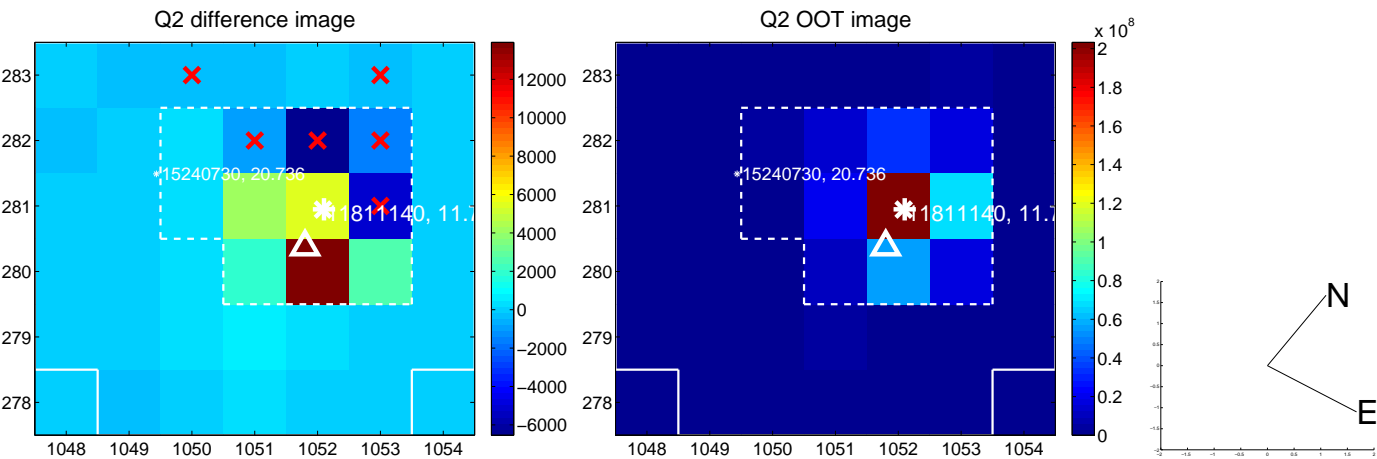
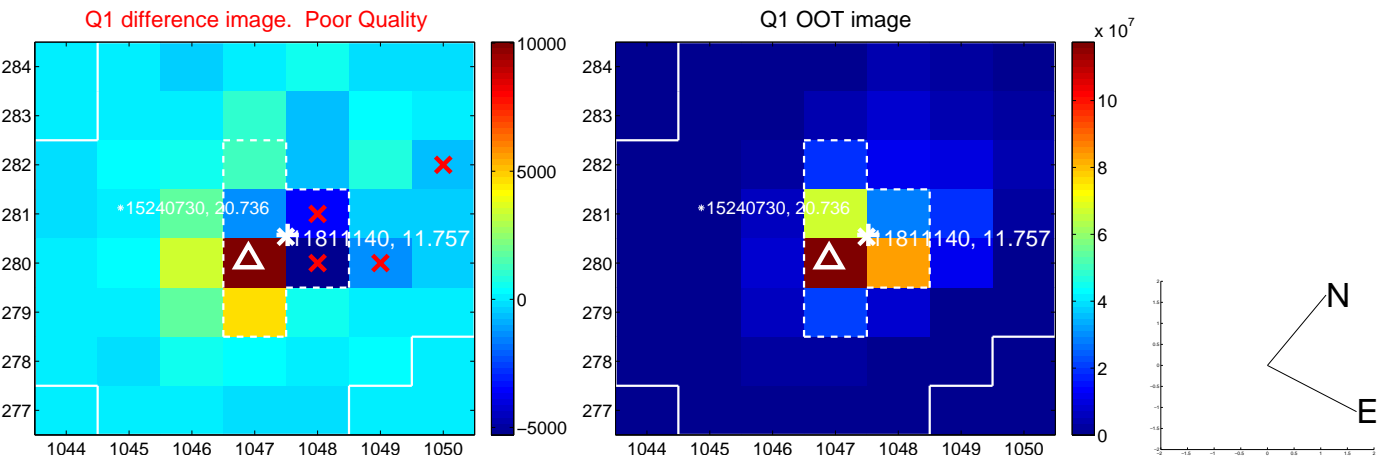


offset from photometric centroids

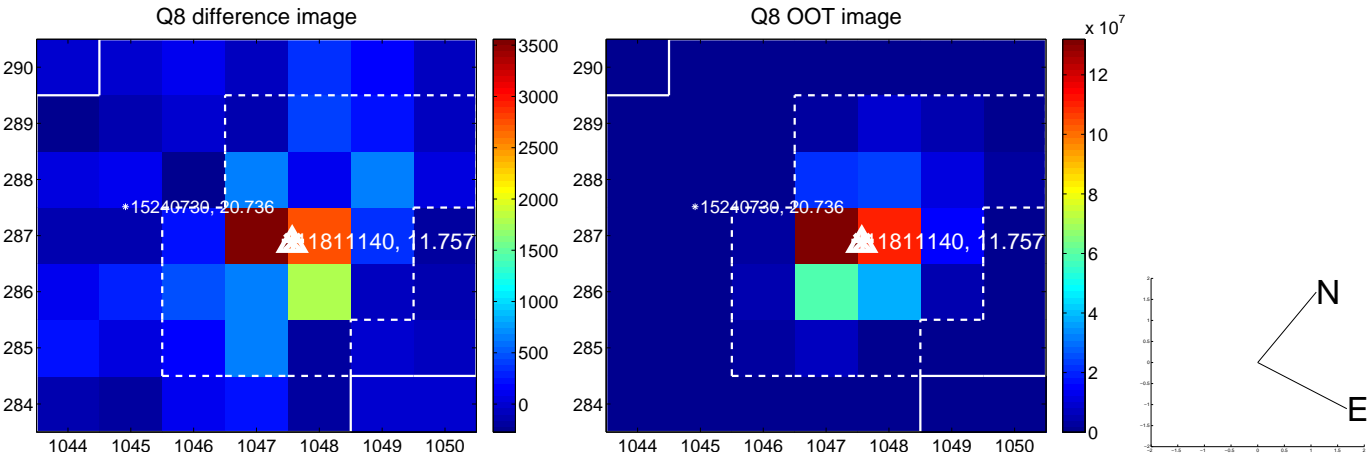
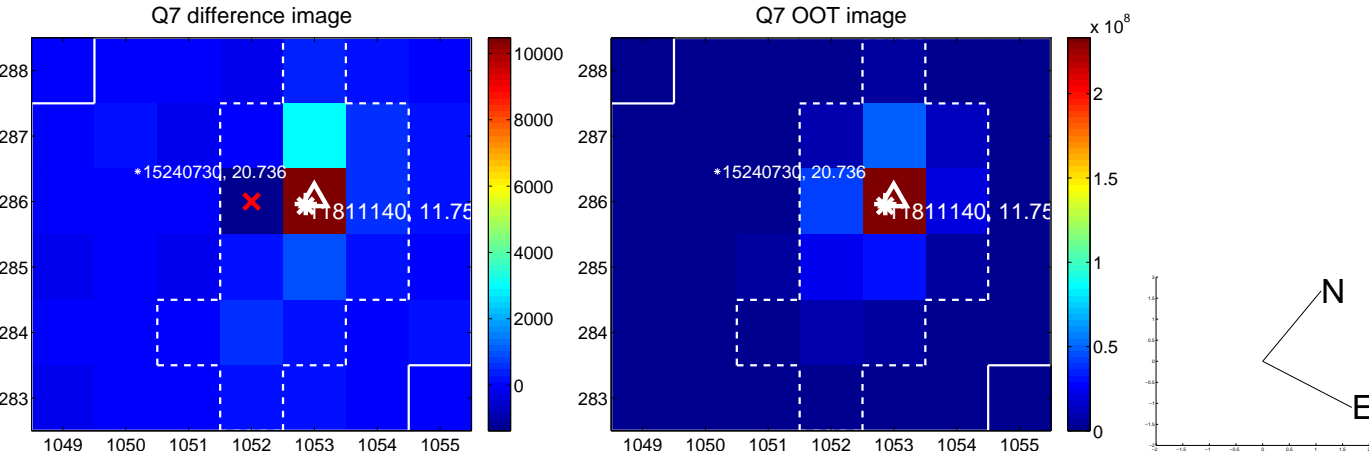
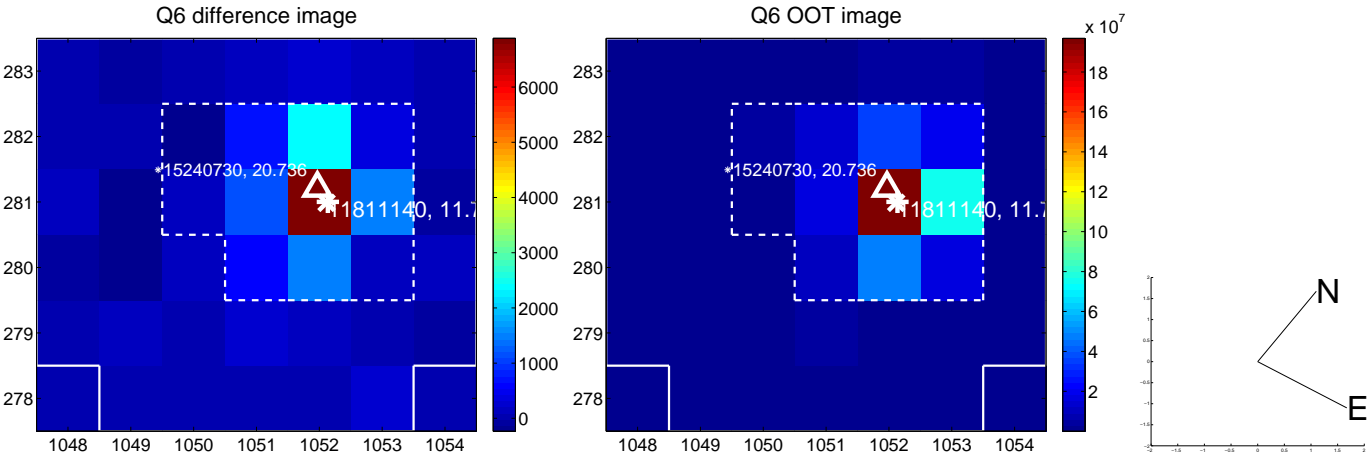
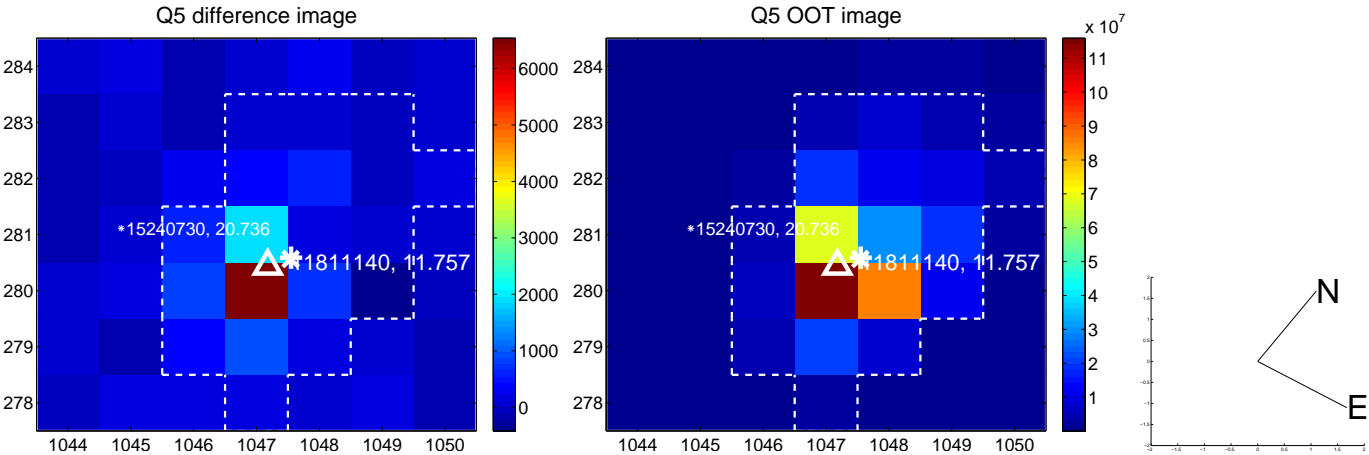


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

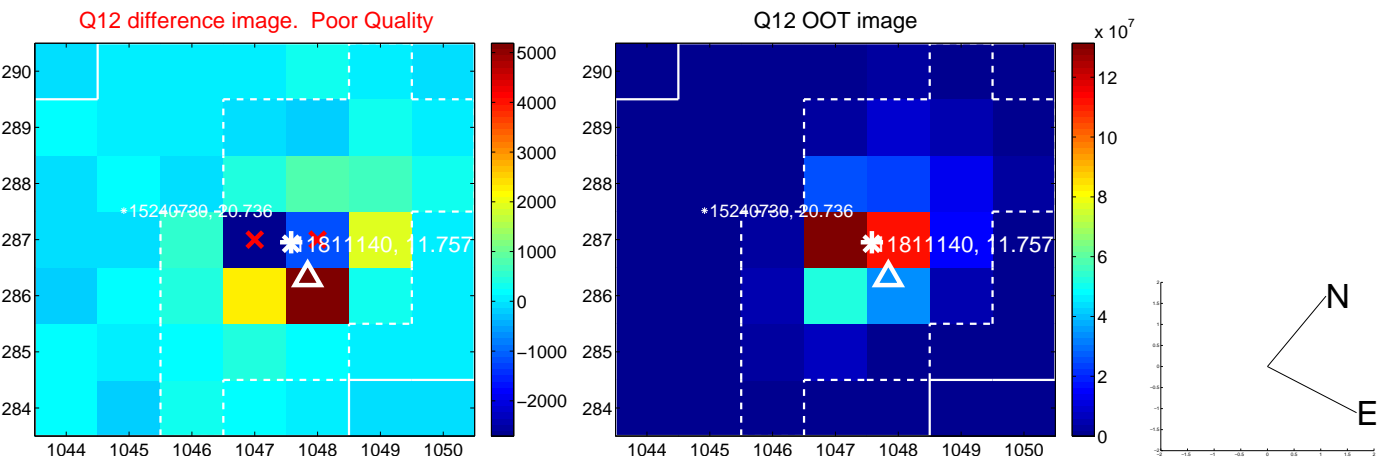
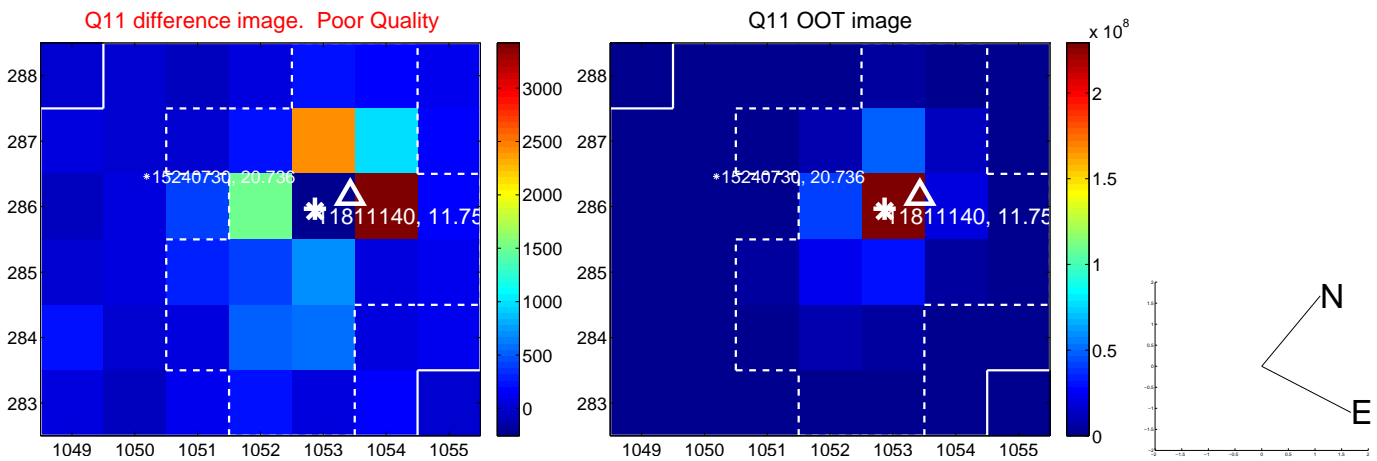
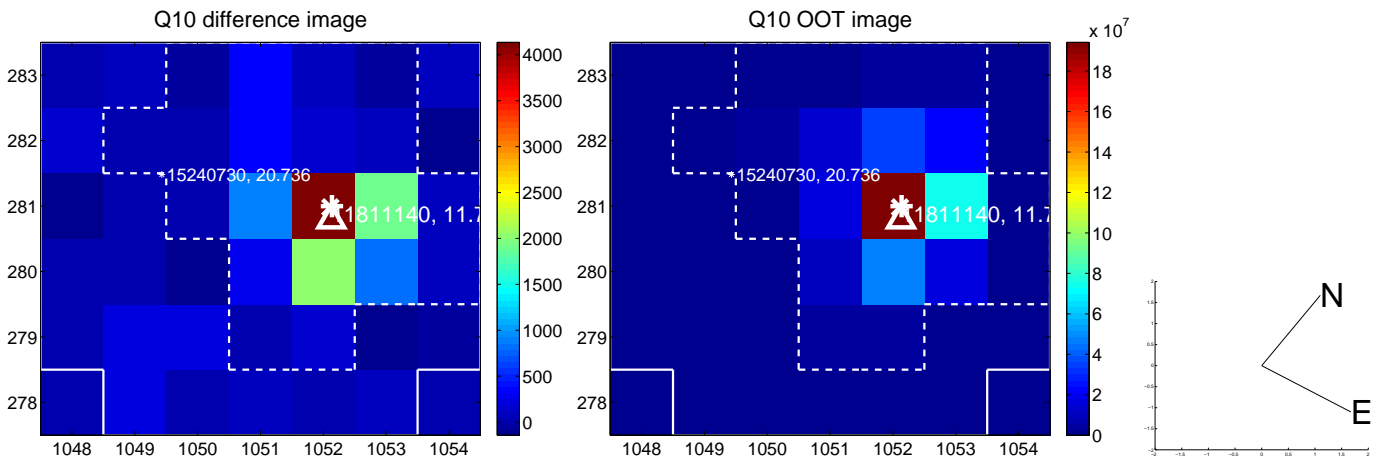
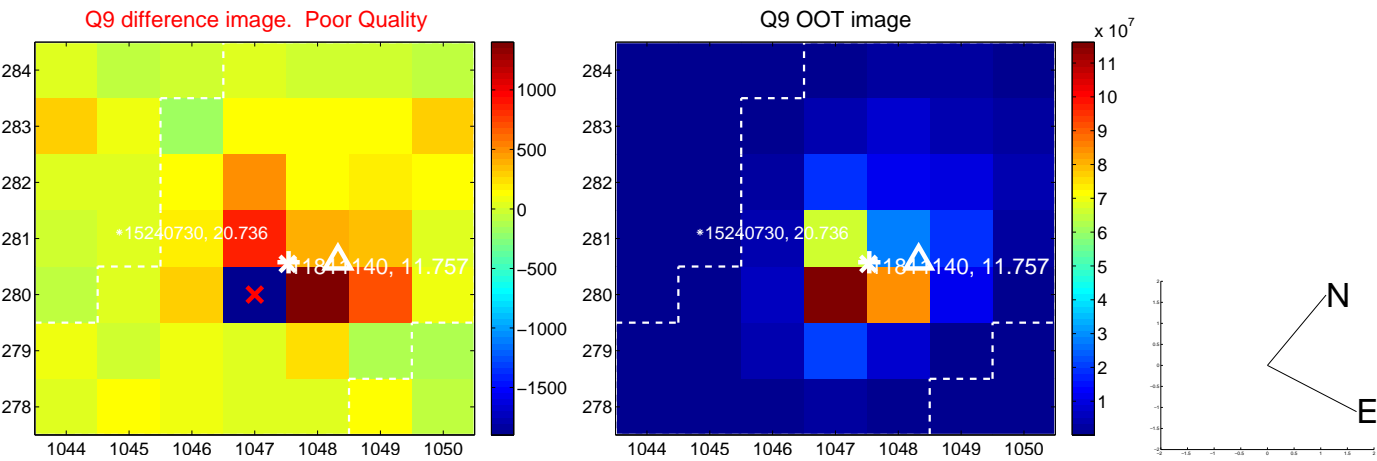
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



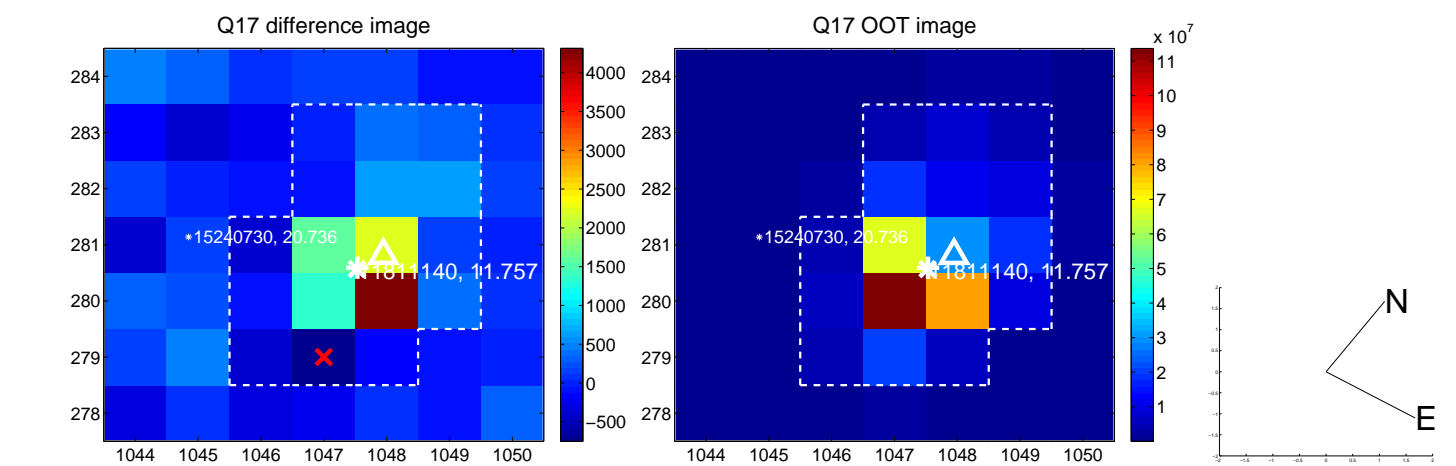
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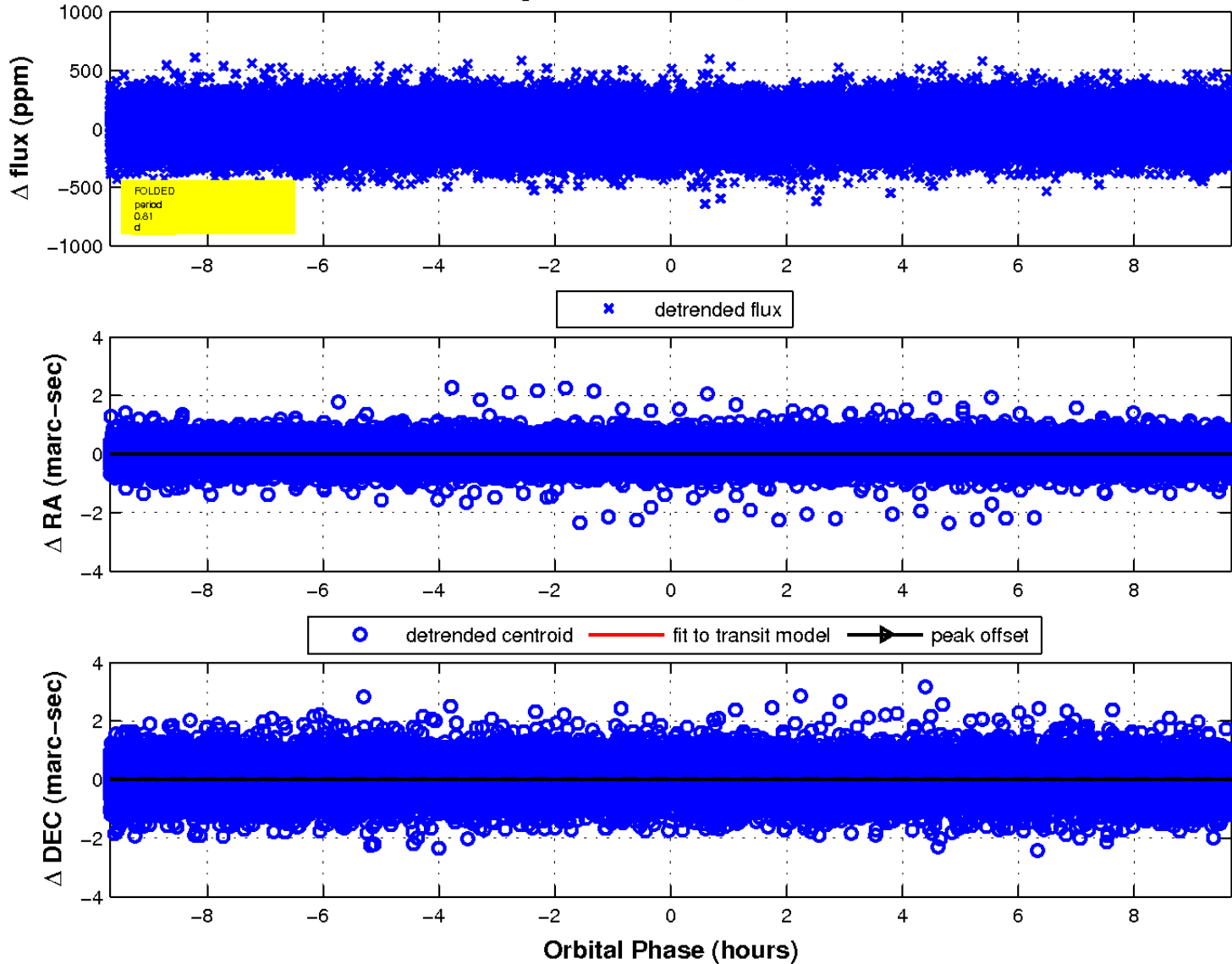
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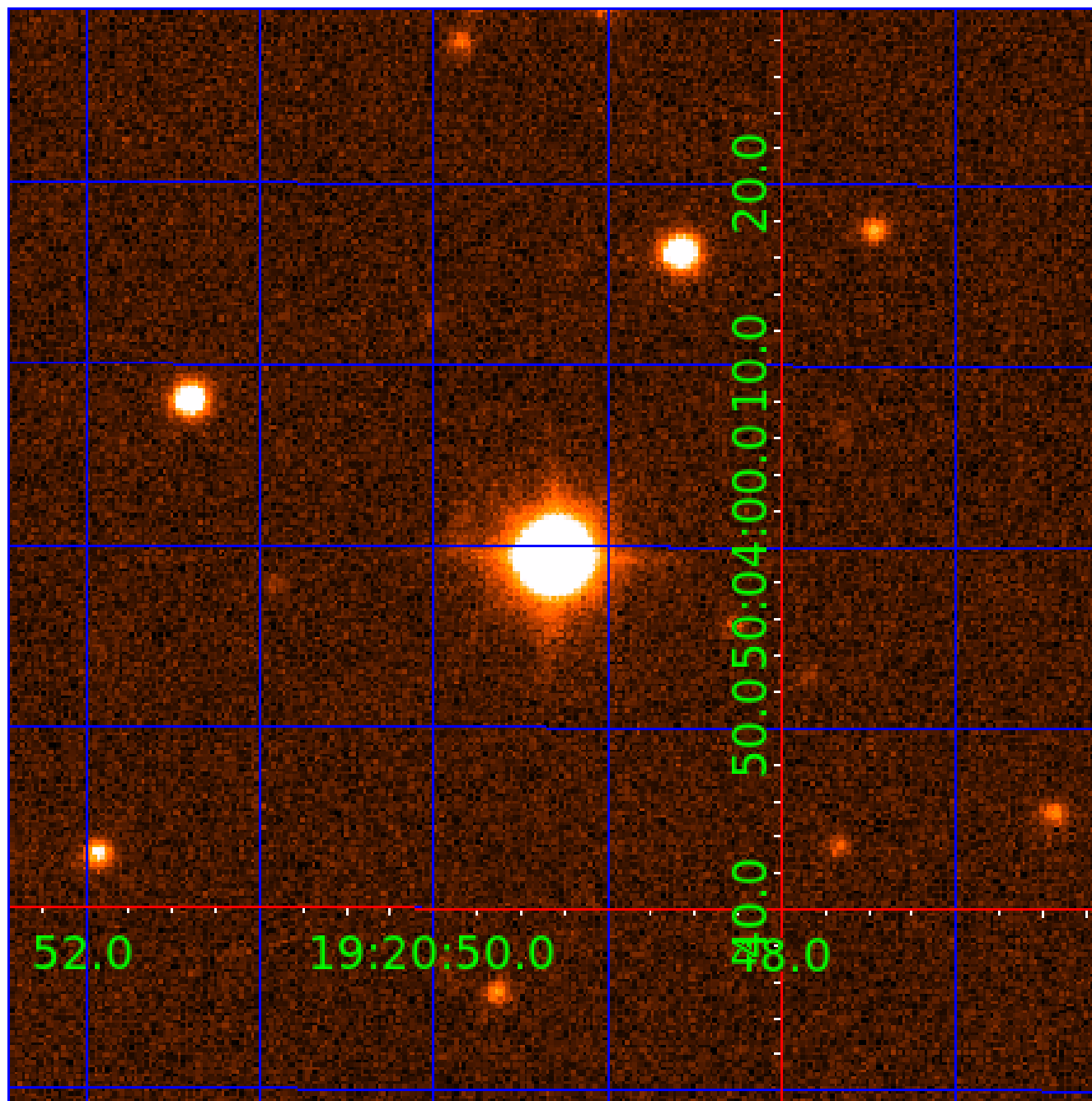


fluxWeightedCentroids, Planet 1 of 8



UKIRT Image

Declination



KIC 011811140

Q1-17 DR25 TCE Parameters

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Robovetter Results

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011811140-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
011811140-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011811140-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011811140-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

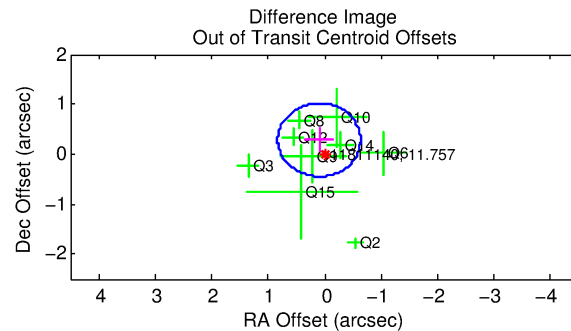
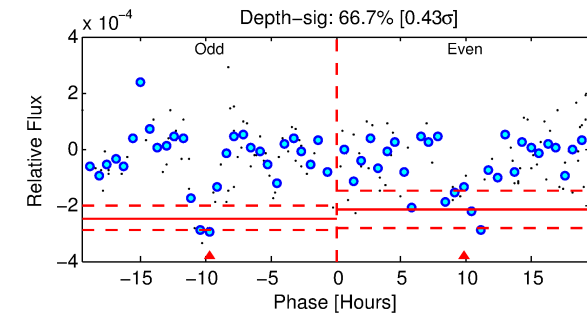
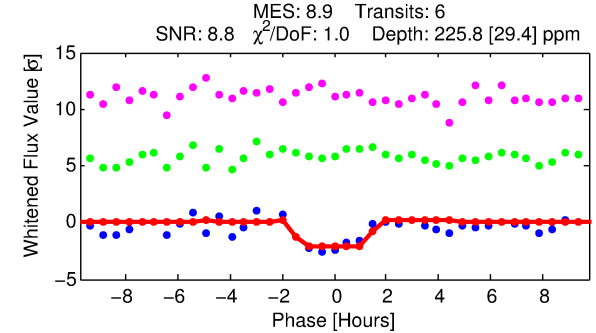
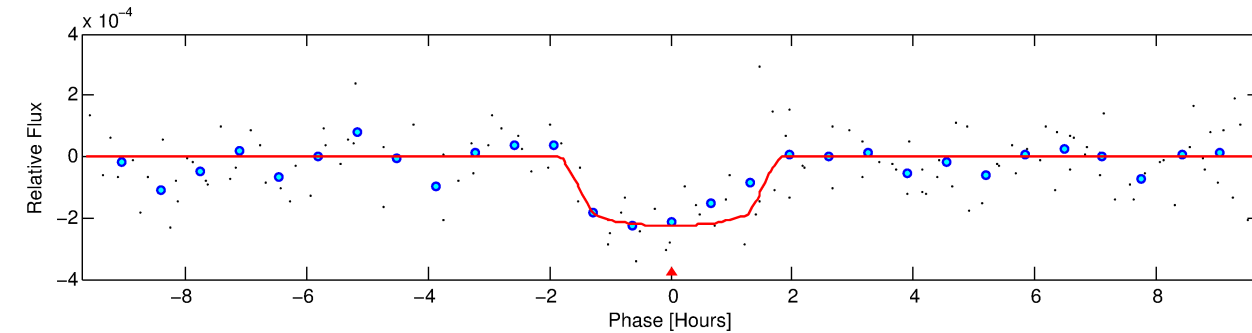
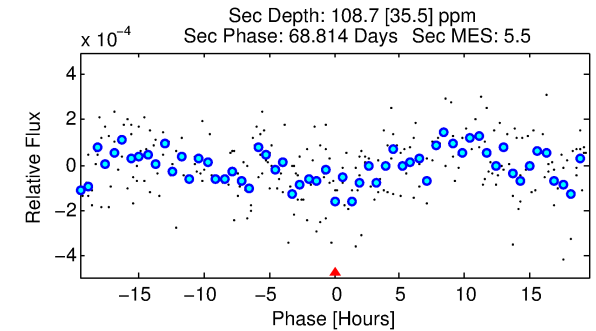
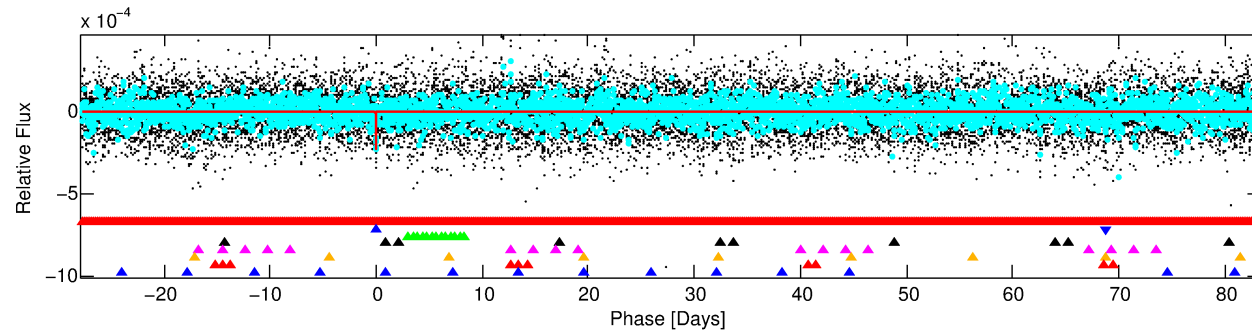
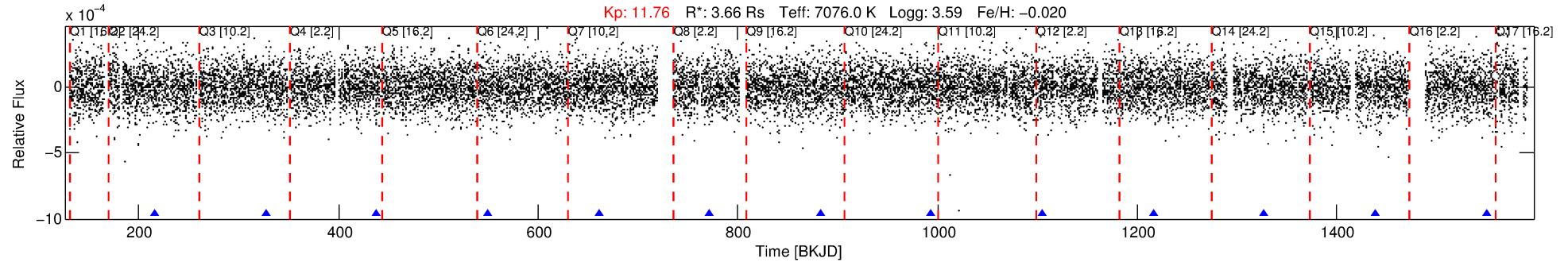
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011811140-02

No Significant Match Found

DV One-Page Summary

KIC: 11811140 Candidate: 2 of 8 Period: 111.101 d



DV Fit Results:

Period = 111.10073 [0.00102] d
Epoch = 216.2017 [0.0082] BKJD
Rp/R* = 0.0150 [0.0241]
a/R* = 175.36 [1707.80]
b = 0.76 [5.36]
Seff = 95.24 [54.26]
Teff = 797 [113] K
Rp = 6.00 [9.87] Re
a = 0.5622 [0.1937] AU
Ag = 525.91 [1722.71] [0.30σ]
Teffp = 5898 [4766] K [1.07σ]

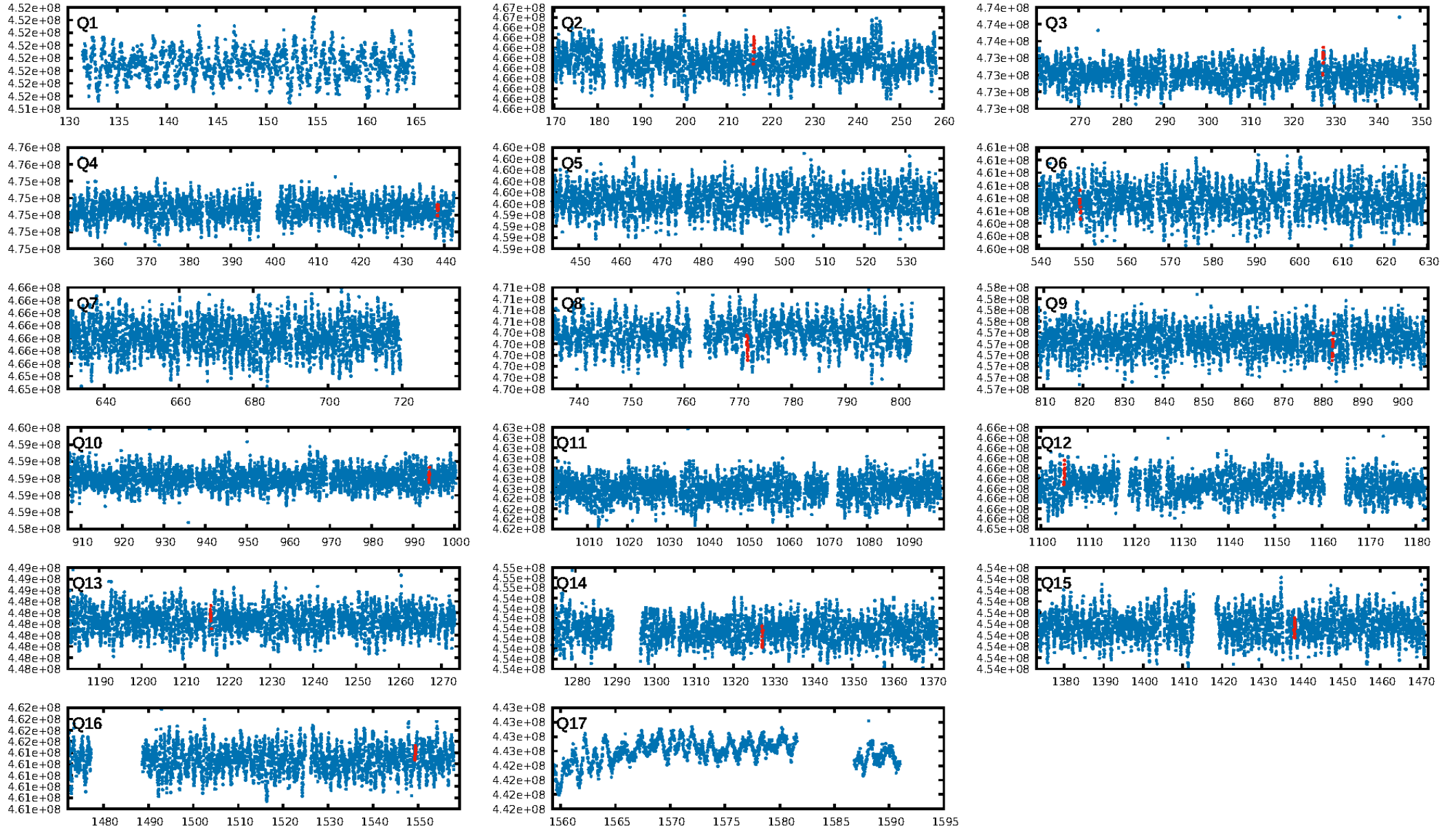
DV Diagnostic Results:

ShortPeriod-sig: 99.0% [2.57σ]
LongPeriod-sig: 100.0% [179.44σ]
ModelChiSquare2-sig: 44.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.69e-10
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.6178
Centroid-sig: 45.9%
Centroid-so: 0.322 arcsec [0.62σ]
OotOffset-rm: 0.300 arcsec [1.23σ]
OotOffset-st: 4/2/2/1 [9]
KicOffset-rm: 0.403 arcsec [1.61σ]
KicOffset-st: 4/2/2/1 [9]
DiffImageQuality-fgm: 0.44 [4/9]
DiffImageOverlap-fno: 0.00 [0/10]

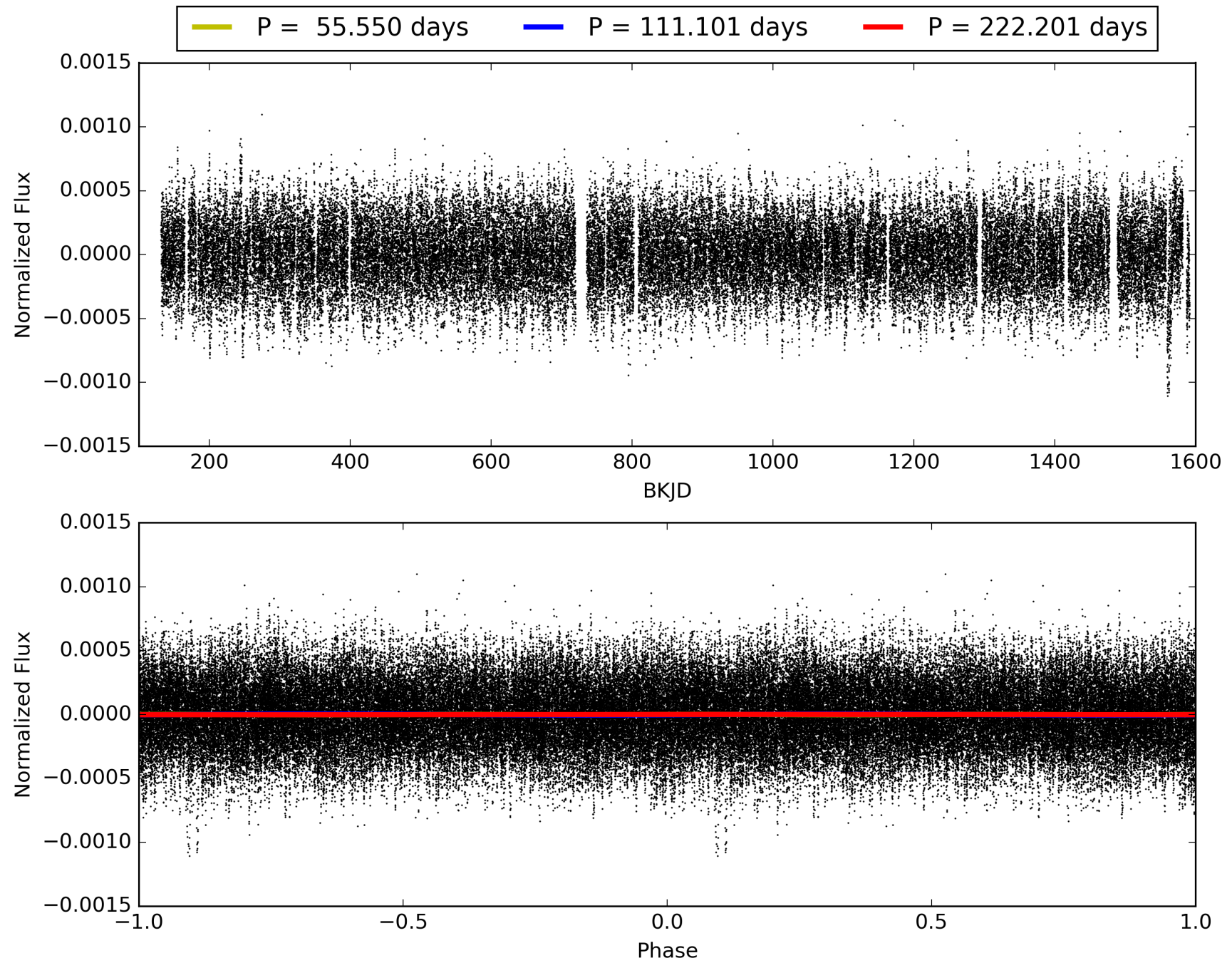
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:05:44 Z

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

TCE 011811140-02, PDC Light Curves

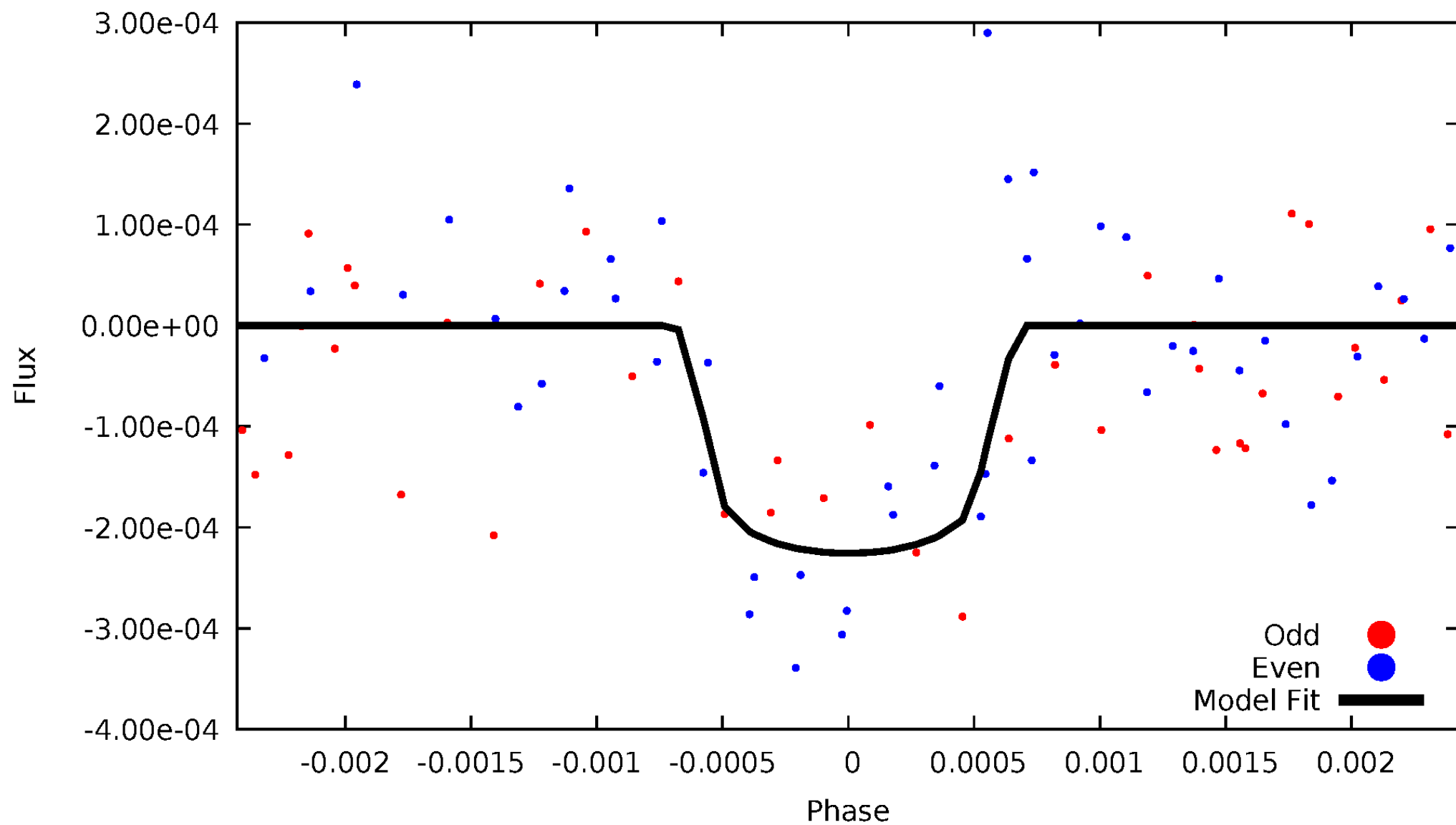


TCE 011811140-02



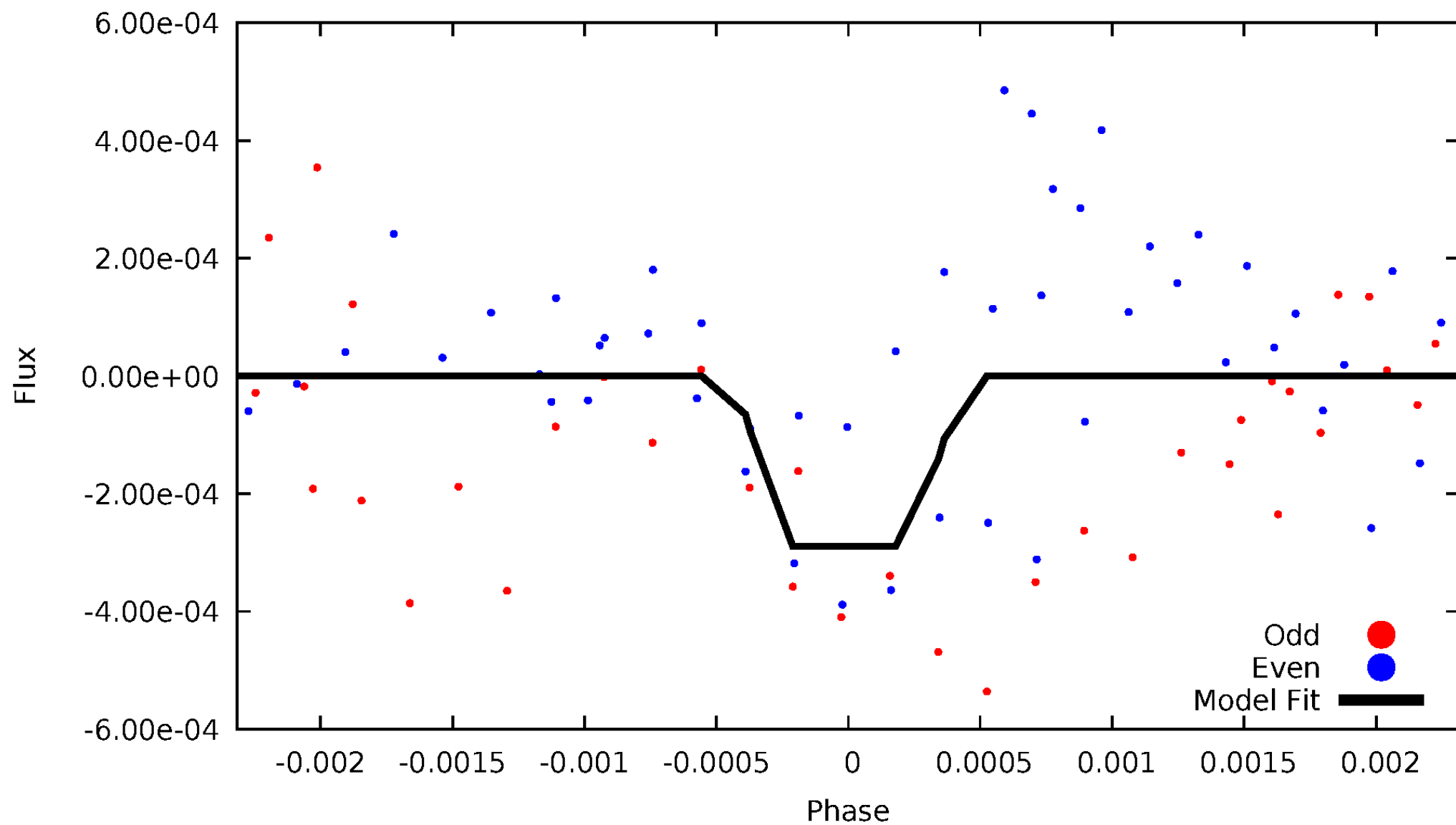
DV Odd/Even

TCE 011811140-02



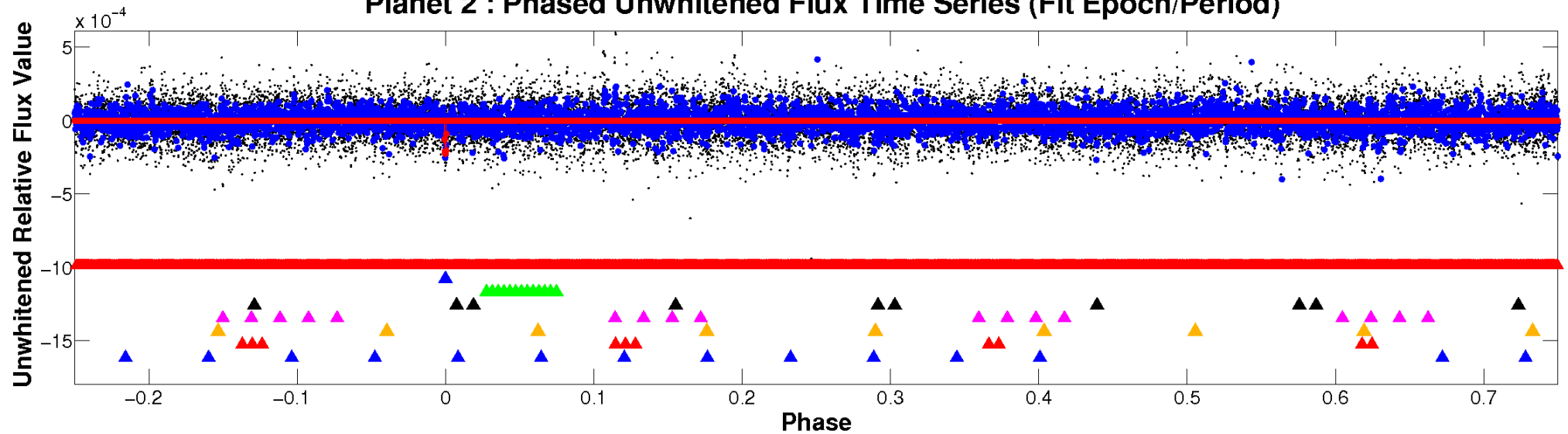
ALT Odd/Even

TCE 011811140-02

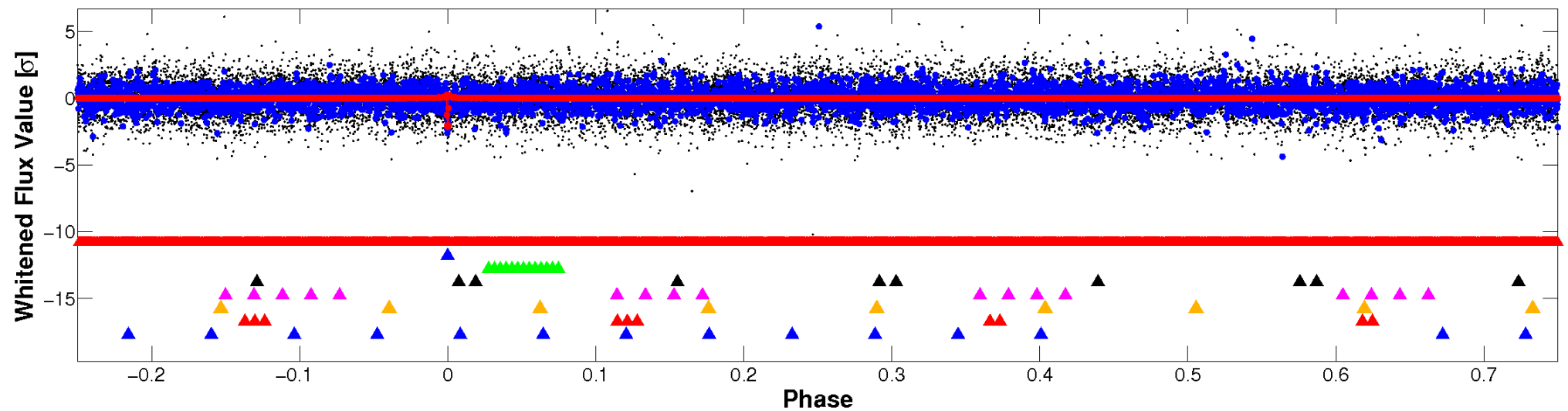


Non-Whitened Vs. Whitened Light Curve

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

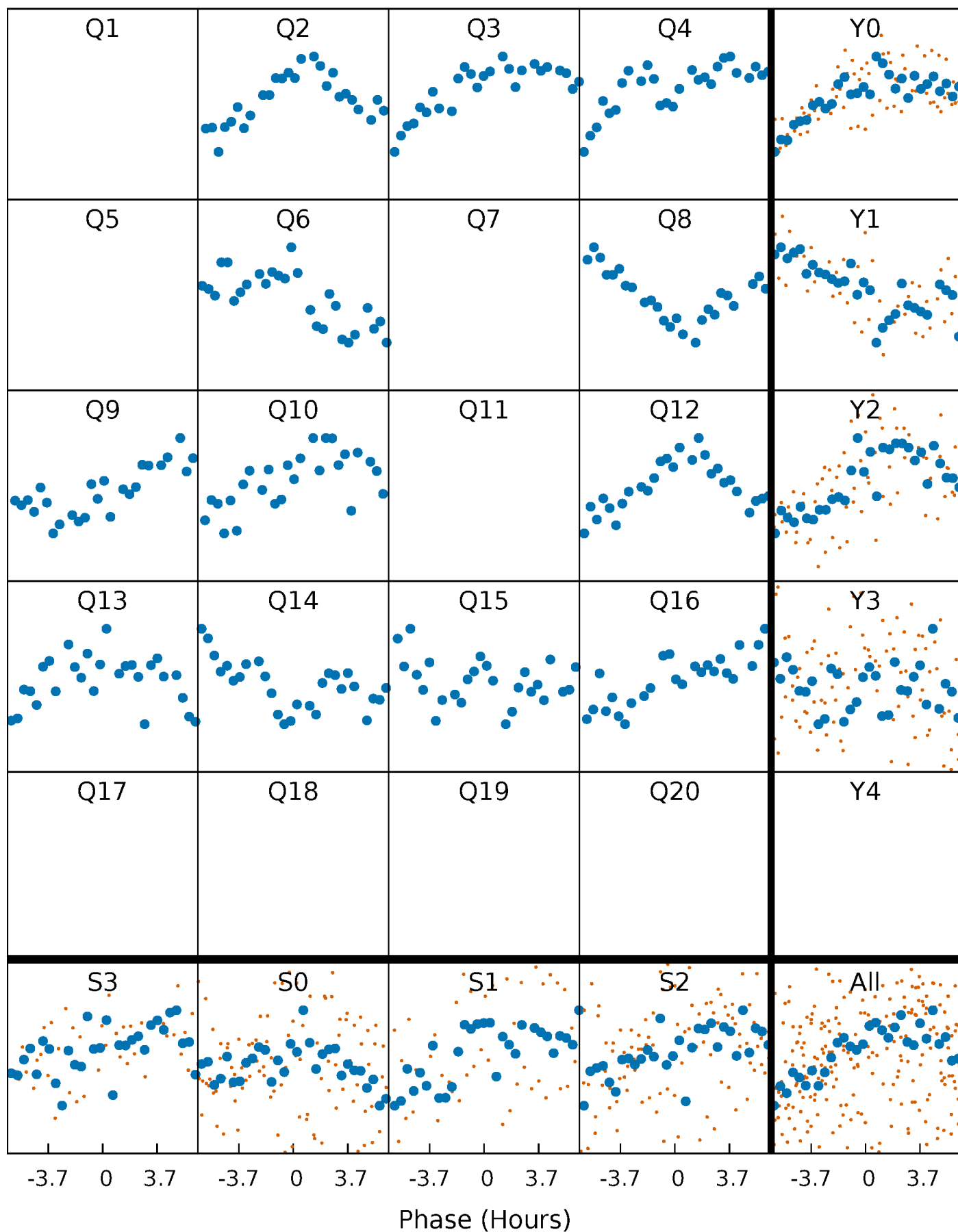


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



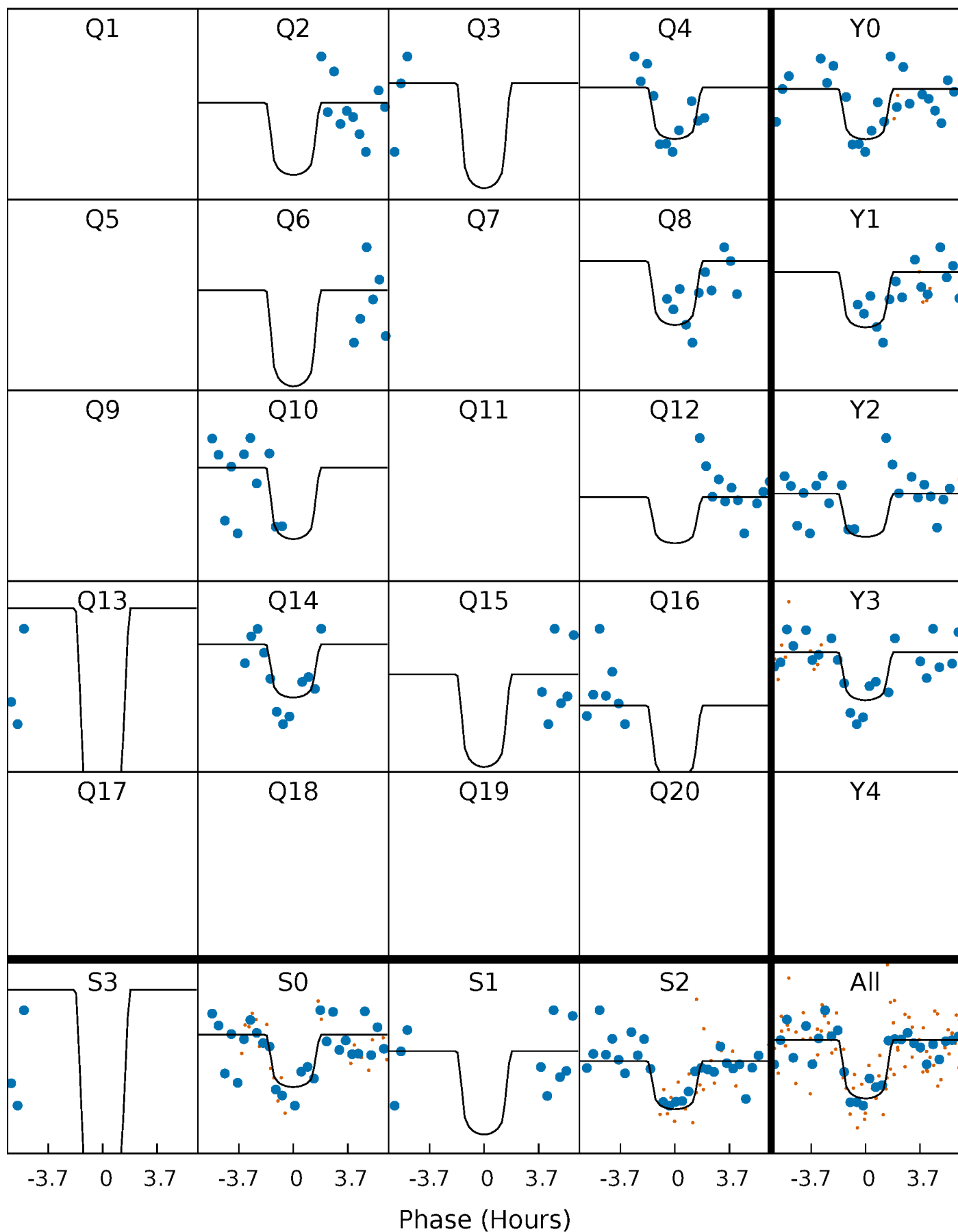
PDC Quarter-Phased Transit Curves

TCE 011811140-02 P=111.100730 Days $T_0=216.201662$ (BKJD)



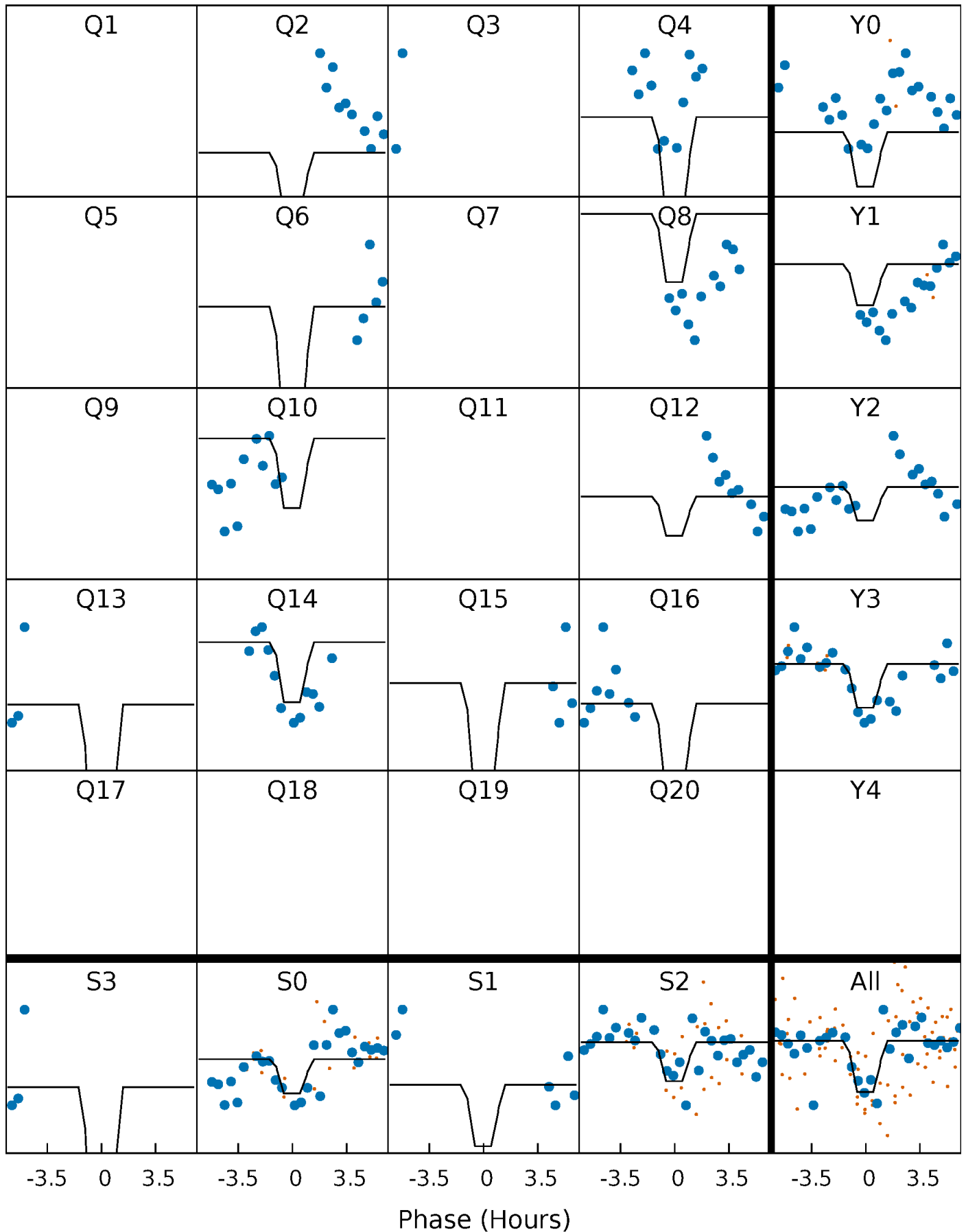
DV Quarter-Phased Transit Curves

TCE 011811140-02 P=111.100730 Days $T_0=216.201662$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

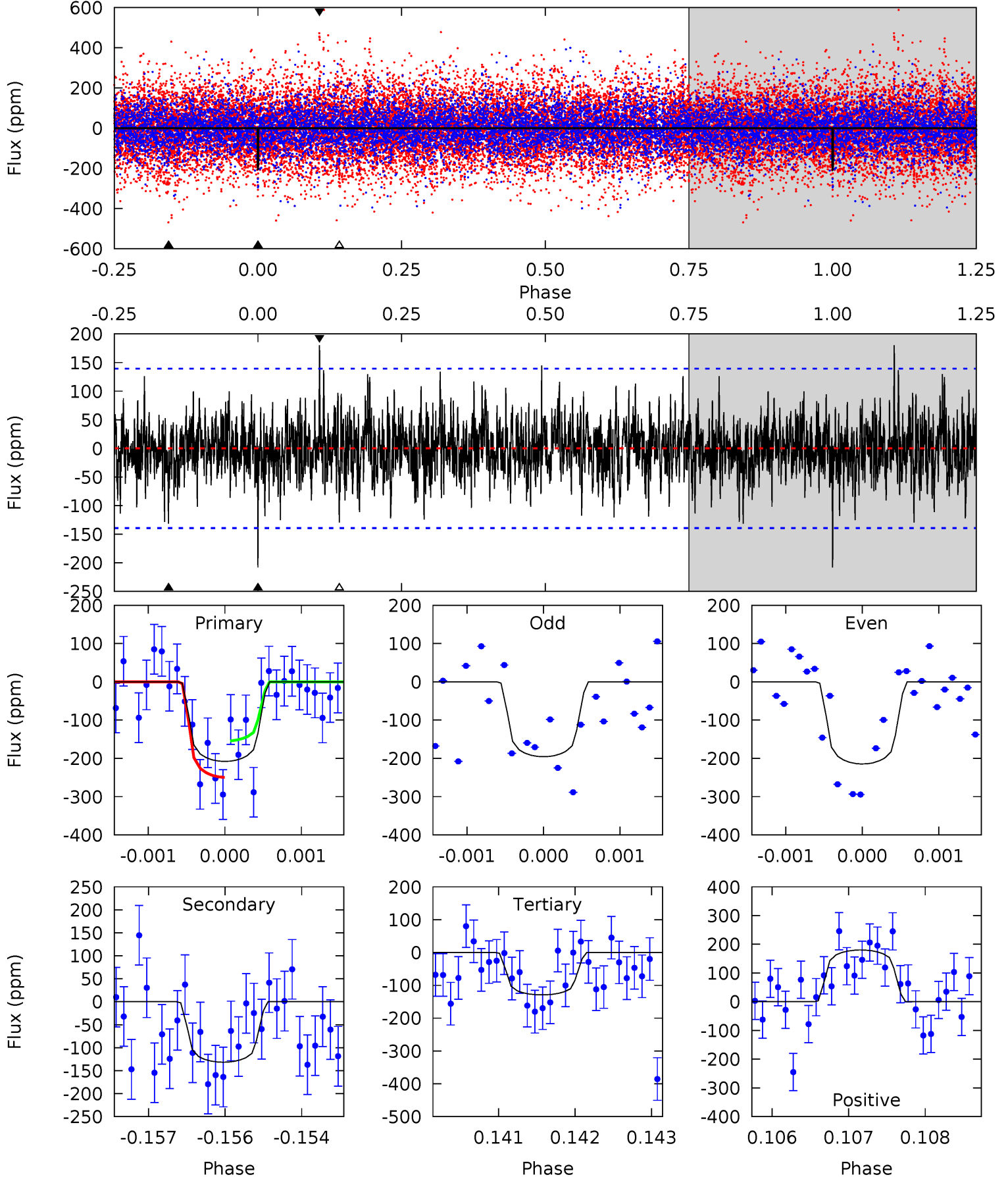
TCE 011811140-02 P=111.098159 Days $T_0=216.206597$ (BKJD)



DV Model-Shift Uniqueness Test

011811140-02, P = 111.100730 Days, E = 105.100932 Days

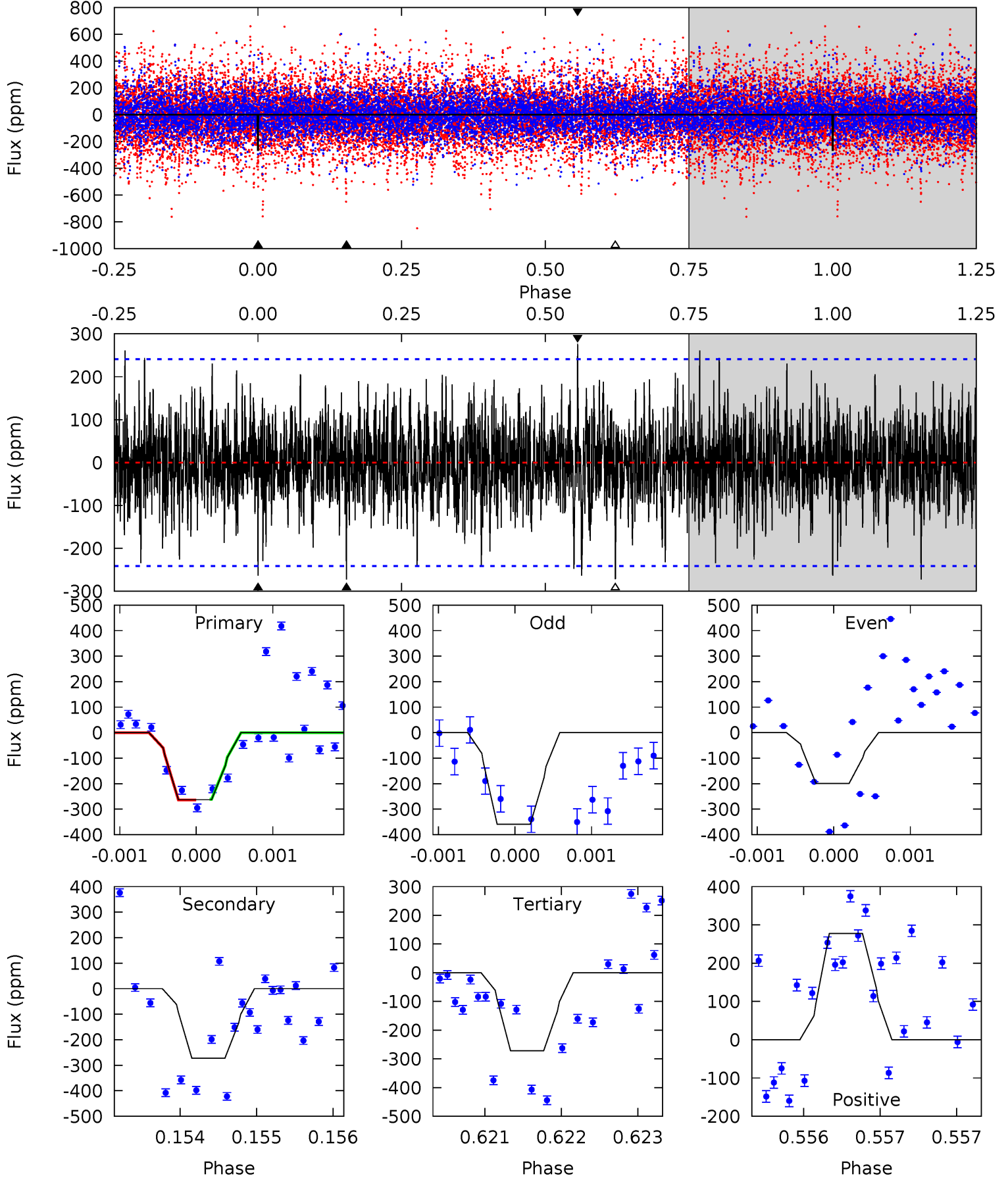
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.09	5.12	5.02	7.01	5.42	3.24	1.53	3.07	1.08	0.10	-1.89	0.35	1.04	0.46	1.85



Alt Model-Shift Uniqueness Test

011811140-02, P = 111.098159 Days, E = 105.108438 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.97	6.17	6.17	6.29	5.47	3.32	1.60	-0.20	-0.32	0.01	-0.12	1.73	0.88	0.50	0.03



Stellar Parameters For KIC 011811140

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7076^{+168}_{-252}	$3.594^{+0.324}_{-0.054}$	$-0.020^{+0.250}_{-0.250}$	$3.661^{+0.327}_{-1.310}$	$1.919^{+0.155}_{-0.336}$	$0.055^{+0.126}_{-0.010}$
	+2%/-4%	+9%/-2%	+1250%/-1250%	+9%/-36%	+8%/-18%	+228%/-18%
Source	PHO1	FLK73	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 011811140-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-132 ± 26	$8.14^{+7.79}_{-5.30}$	1081^{+59}_{-100}	5100^{+3851}_{-1142}	335^{+2432}_{-246}
Alt.	-272 ± 44	$8.72^{+8.50}_{-5.63}$	1081^{+57}_{-89}	5858^{+4968}_{-1433}	611^{+4463}_{-451}

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 $A_{obs} \gg 1.0$

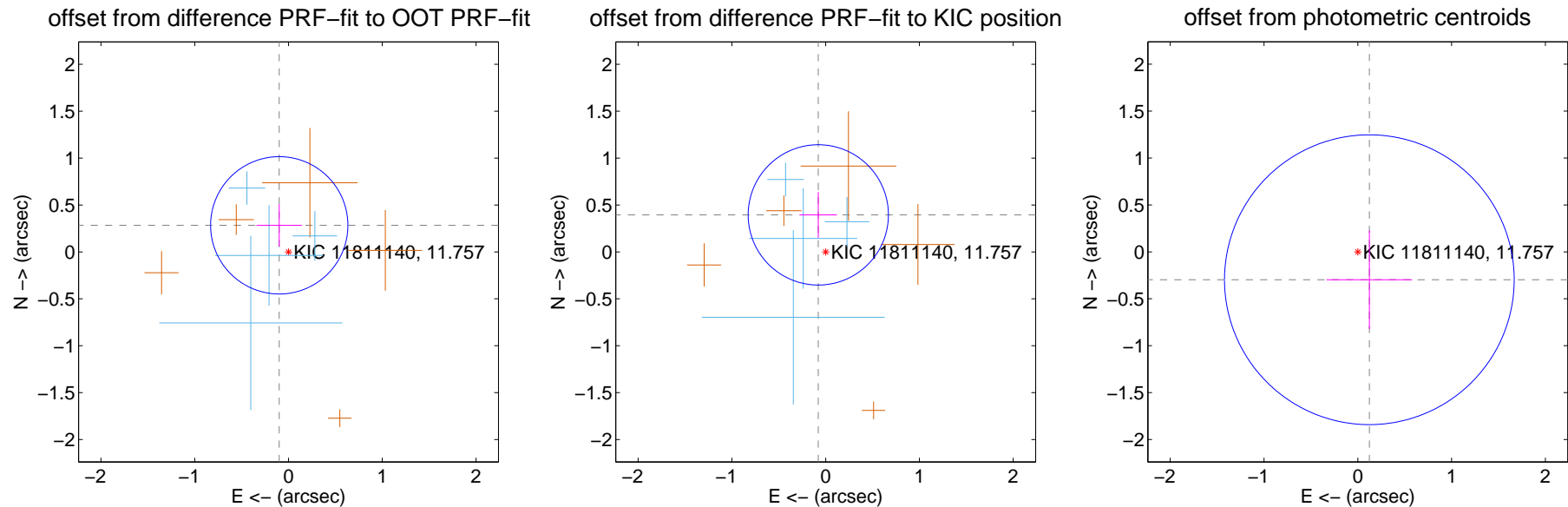
DV Centroid Data

Supplemental centroid analysis for 011811140-02. **Kepler magnitude: 11.76.** Transit SNR 8.82

There are 4 quarters with good PRF difference image offsets

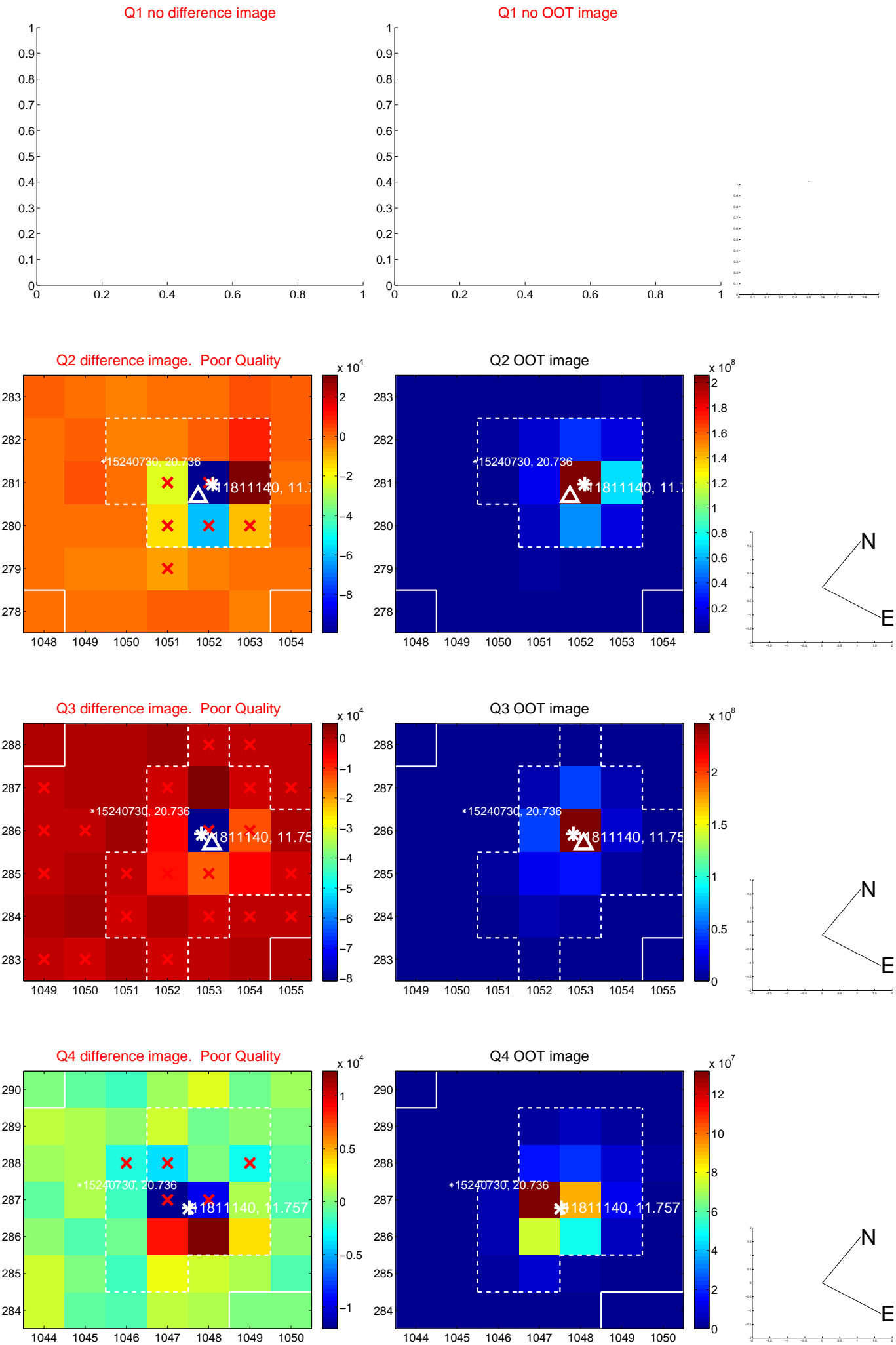
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.300 ± 0.244	1.23	0.099 ± 0.243	0.283 ± 0.226
PRF-fit source offset from KIC position	0.403 ± 0.249	1.61	0.079 ± 0.199	0.395 ± 0.245
photometric centroid source offset	0.32 ± 0.51	0.62	-0.12 ± 0.46	-0.30 ± 0.52

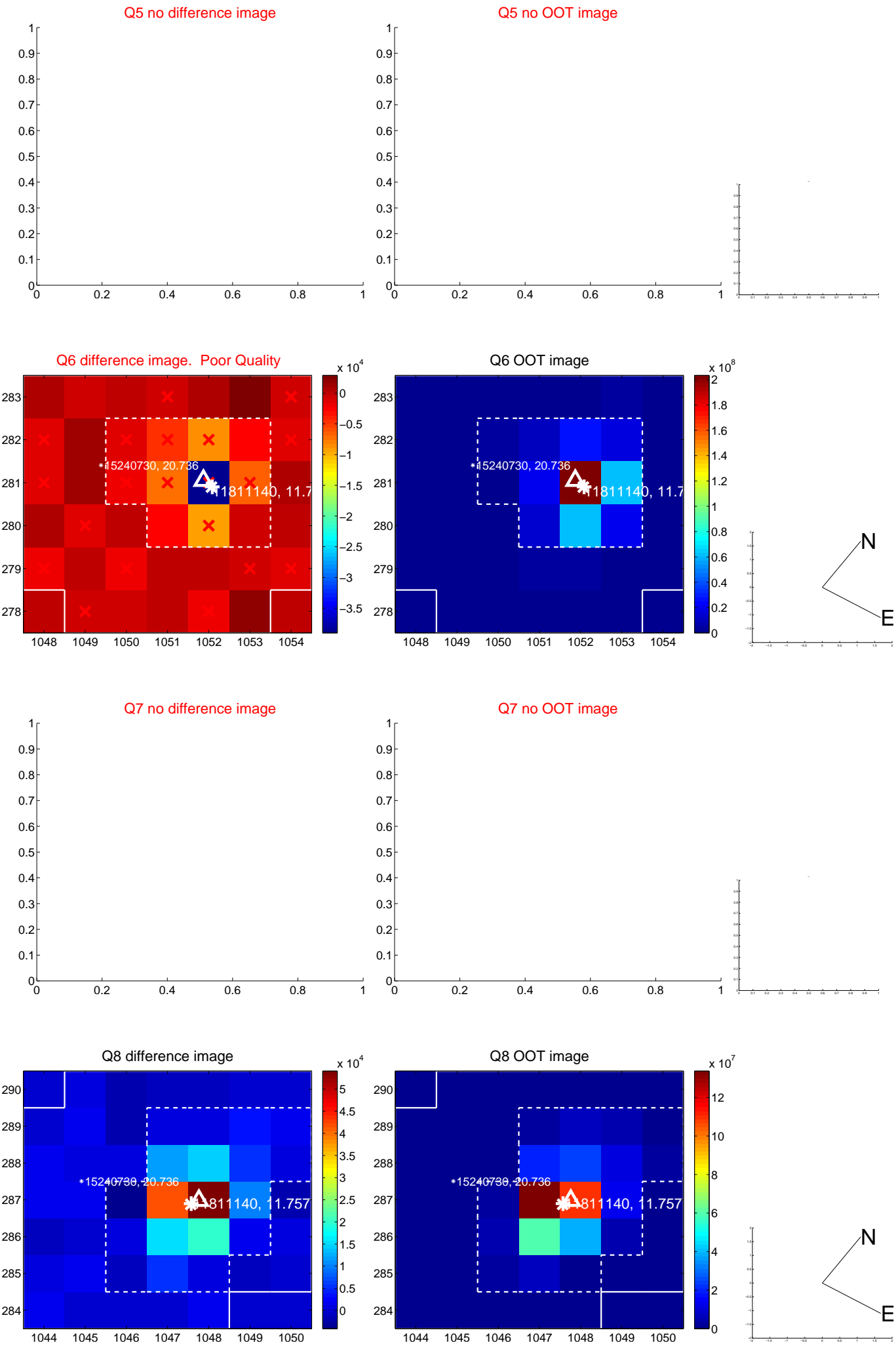


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

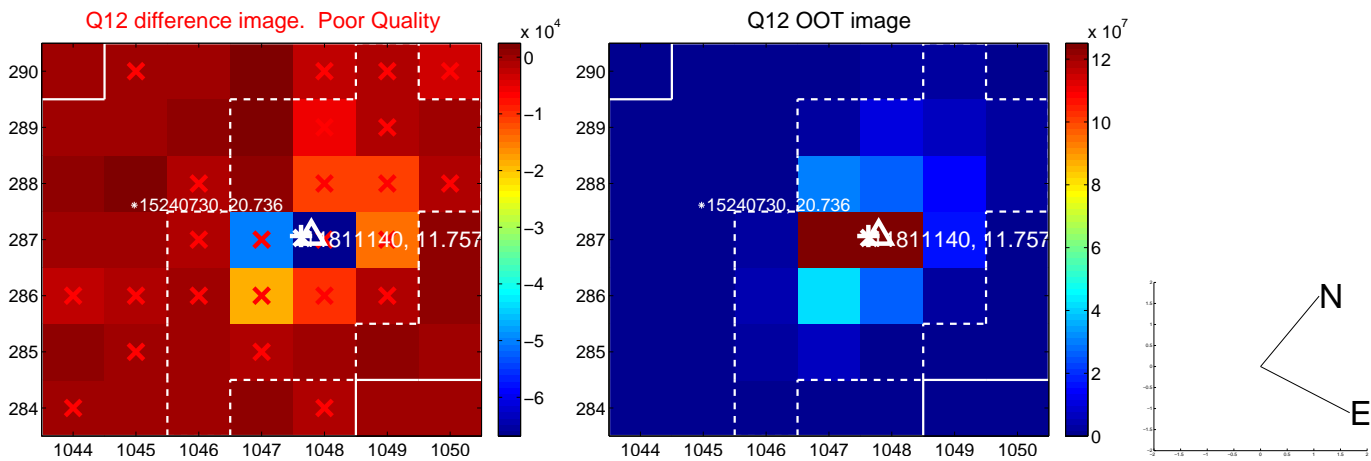
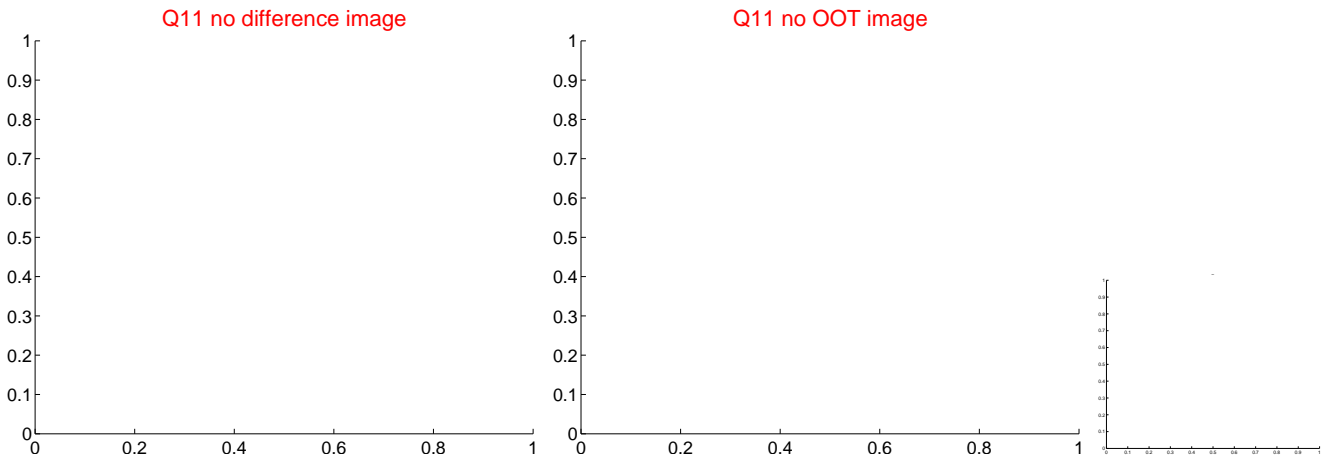
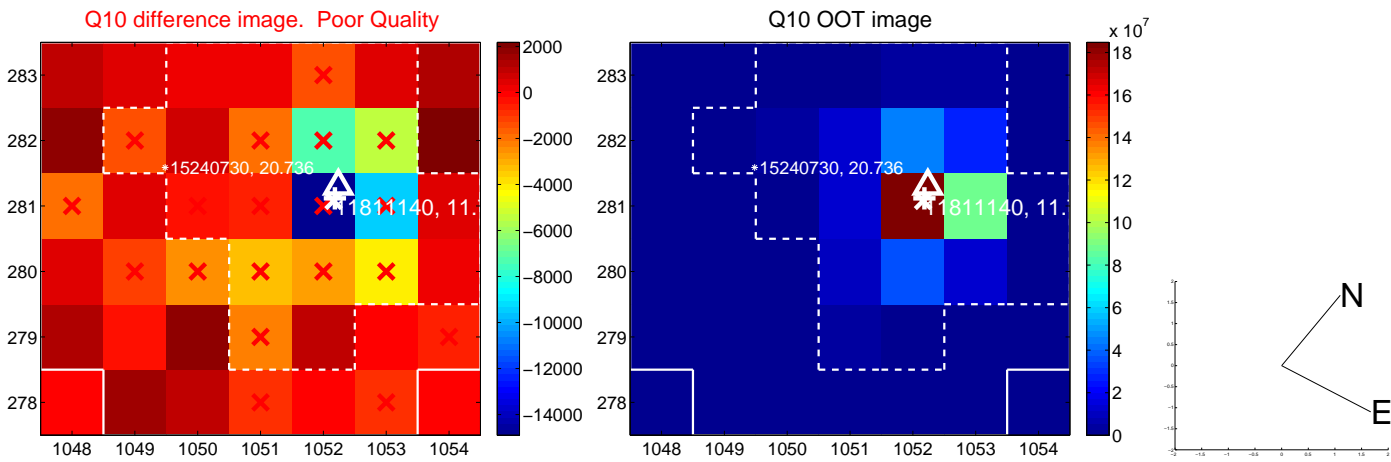
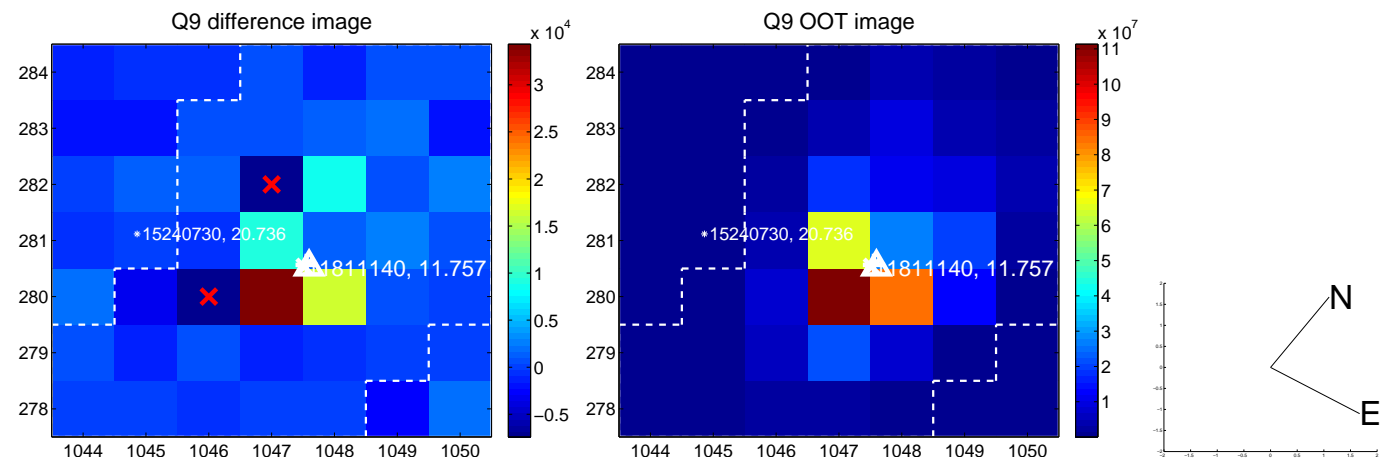
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

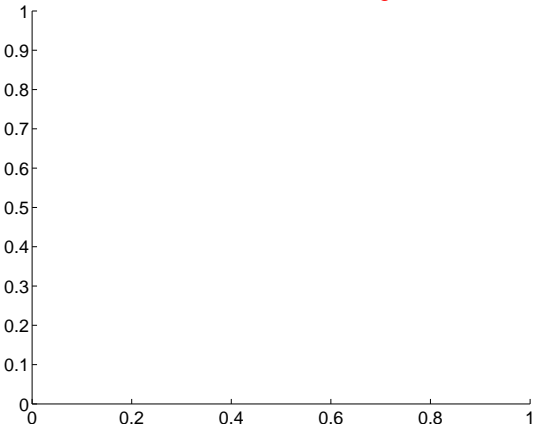


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

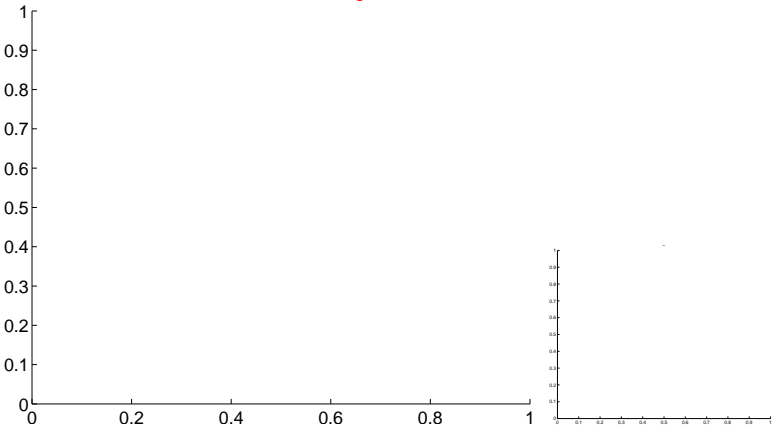


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

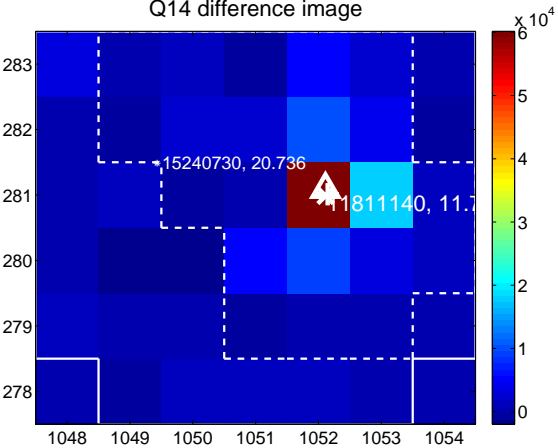
Q13 no difference image



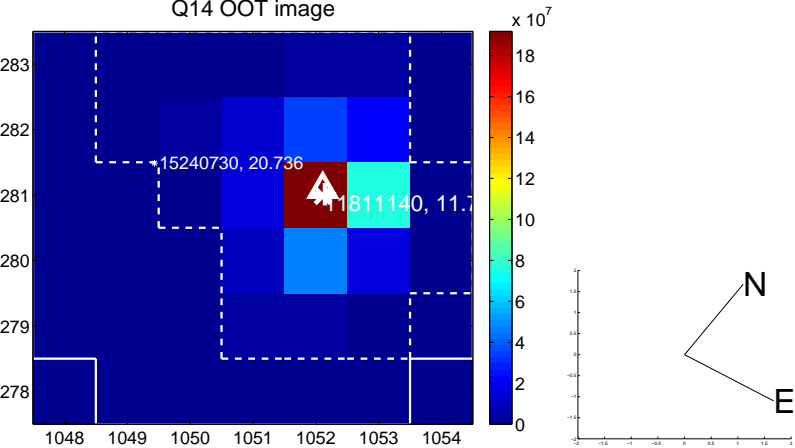
Q13 no OOT image



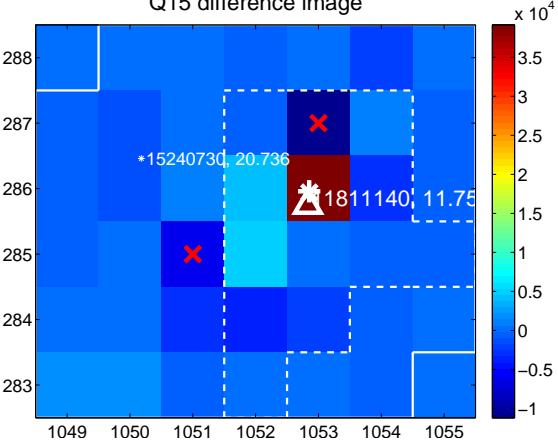
Q14 difference image



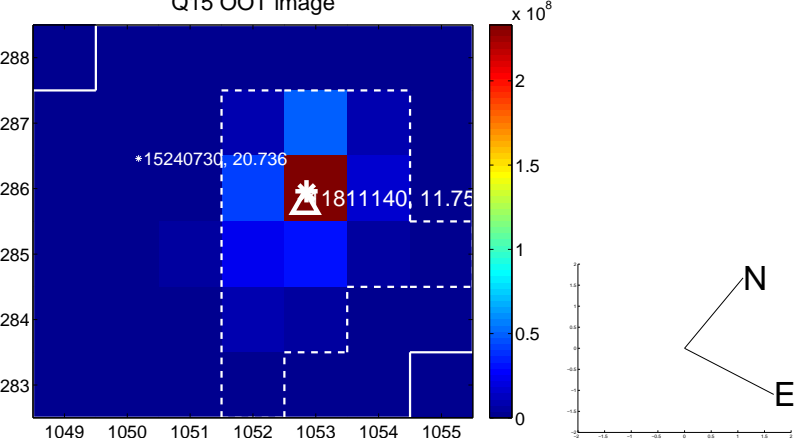
Q14 OOT image



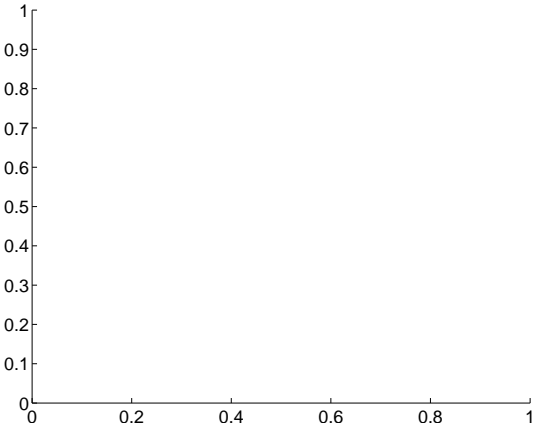
Q15 difference image



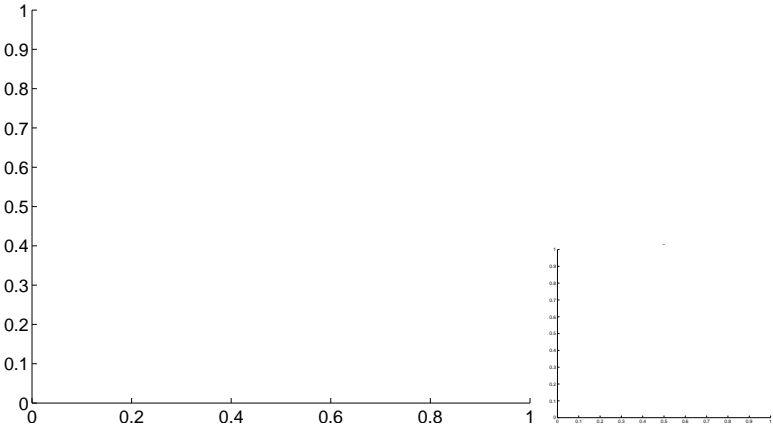
Q15 OOT image



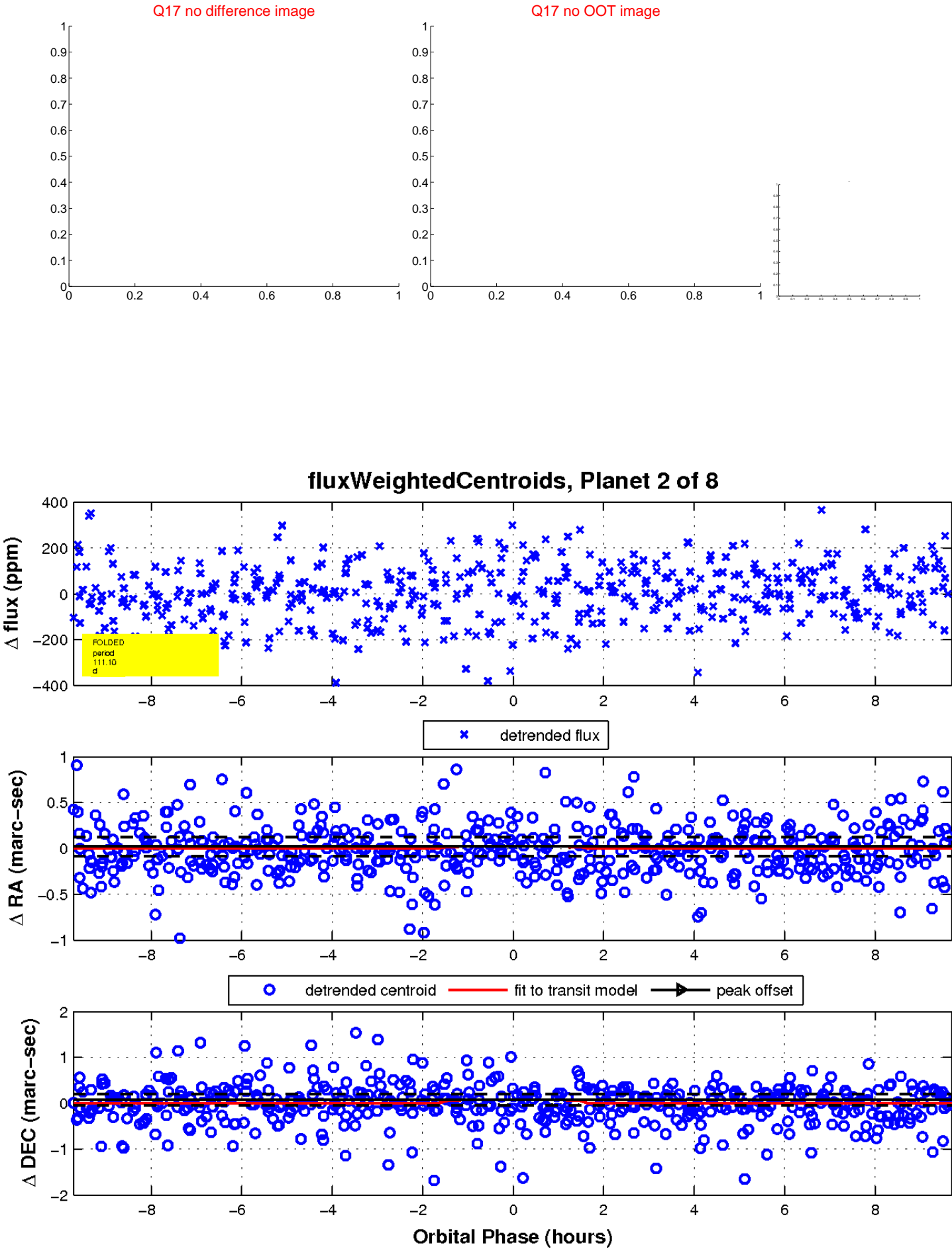
Q16 no difference image



Q16 no OOT image

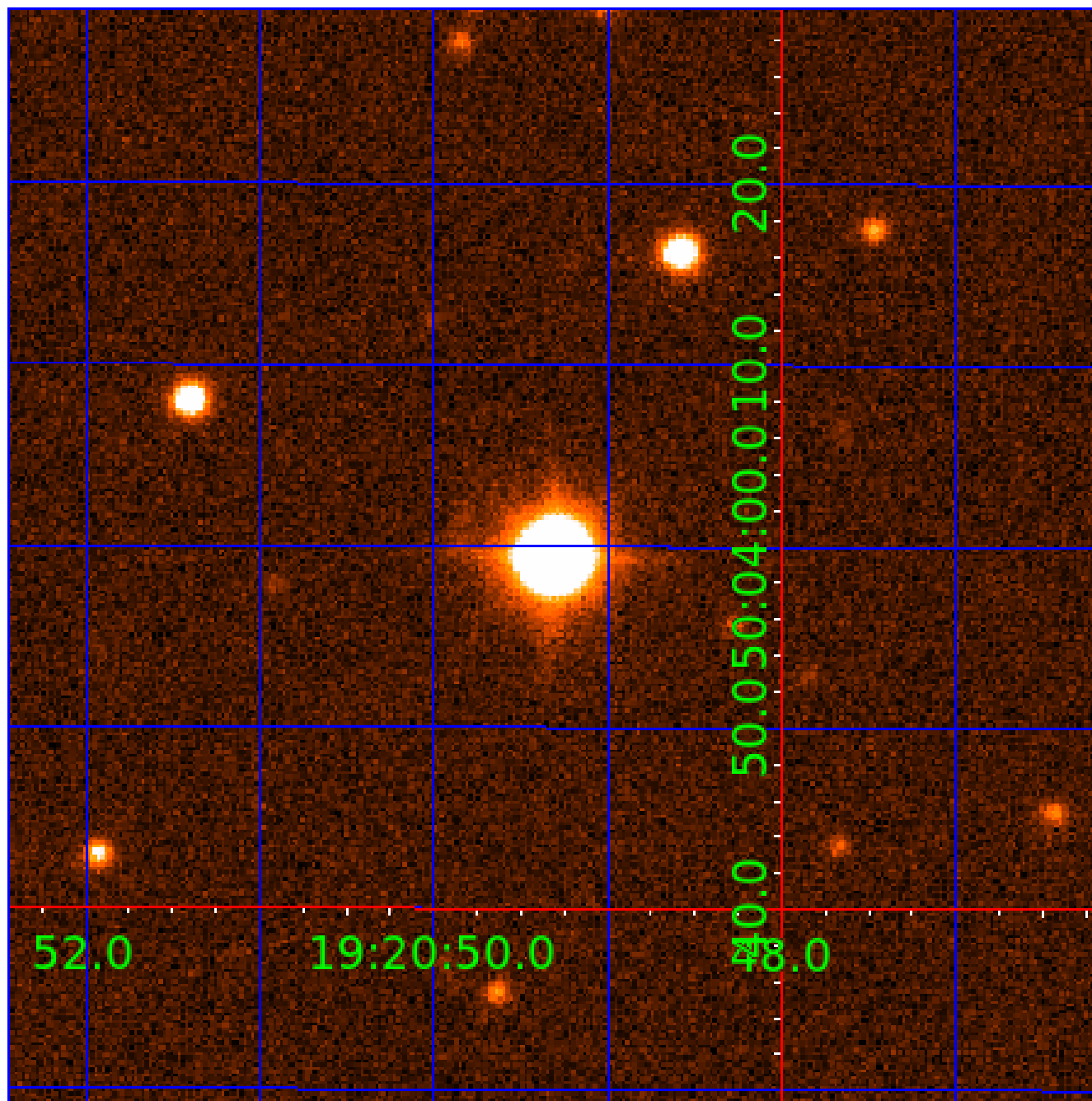


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011811140

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})
011811140-01	OBS	No	0.807258	132.027011	18.8	4.414	9.4	10.7	3.66	7076	1.68	67675.13
011811140-02	OBS	No	111.100730	216.201662	225.8	3.240	8.9	8.8	3.66	7076	6.00	95.24
011811140-03	OBS	No	110.664599	224.510088	203.6	2.456	8.8	8.4	3.66	7076	5.93	95.74
011811140-04	OBS	No	142.663359	218.297691	294.8	1.797	8.7	7.6	3.66	7076	6.82	68.24
011811140-05	OBS	No	83.860304	199.528002	210.3	3.341	8.4	8.4	3.66	7076	5.99	138.58
011811140-06	OBS	No	160.333575	211.811004	217.9	11.065	7.8	9.1	3.66	7076	6.43	58.40
011811140-07	OBS	No	139.061696	200.981521	275.9	1.868	7.9	8.2	3.66	7076	7.07	70.61
011811140-08	OBS	No	104.873512	149.632424	185.2	8.082	7.8	8.2	3.66	7076	6.38	102.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011811140-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
011811140-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
011811140-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011811140-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011811140-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

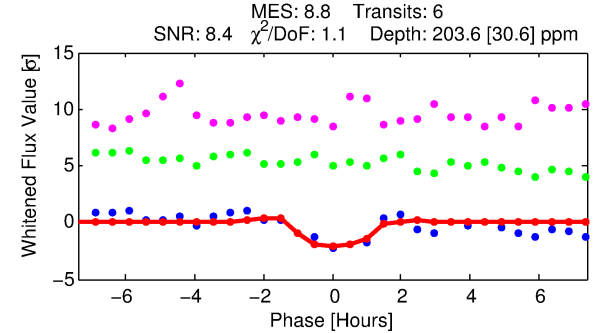
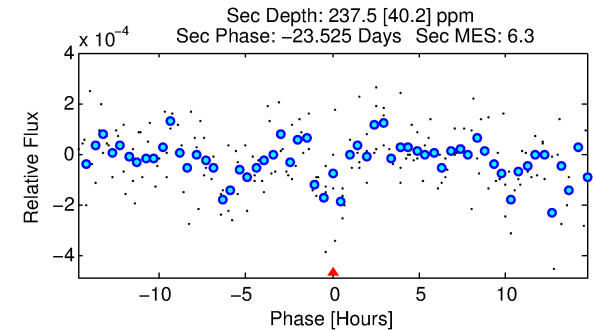
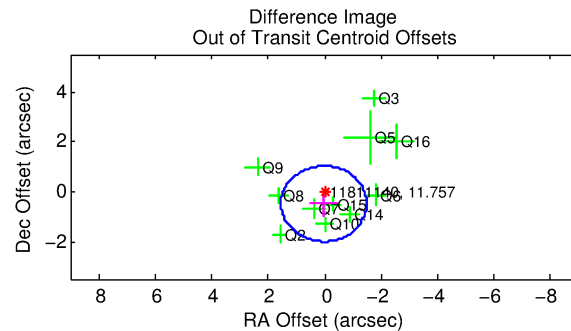
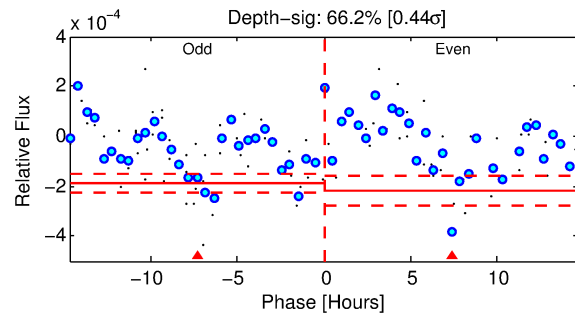
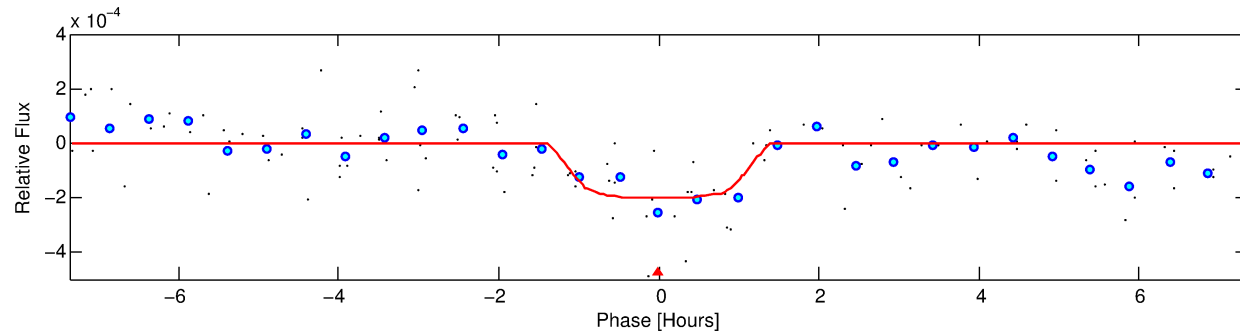
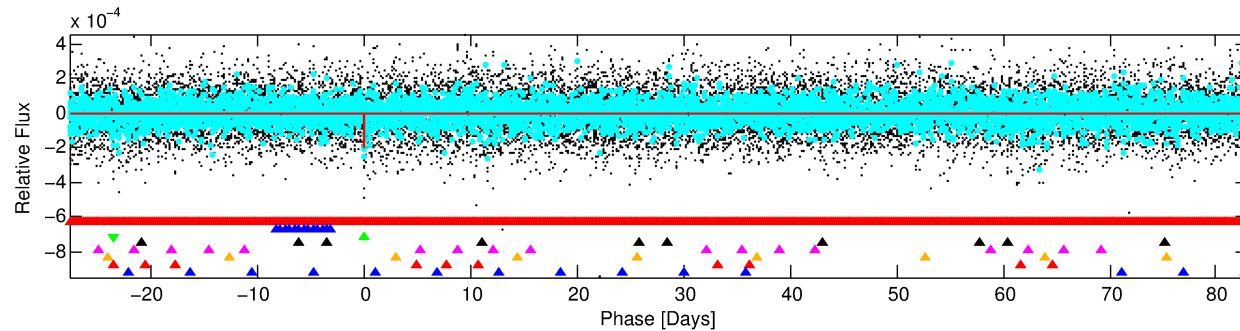
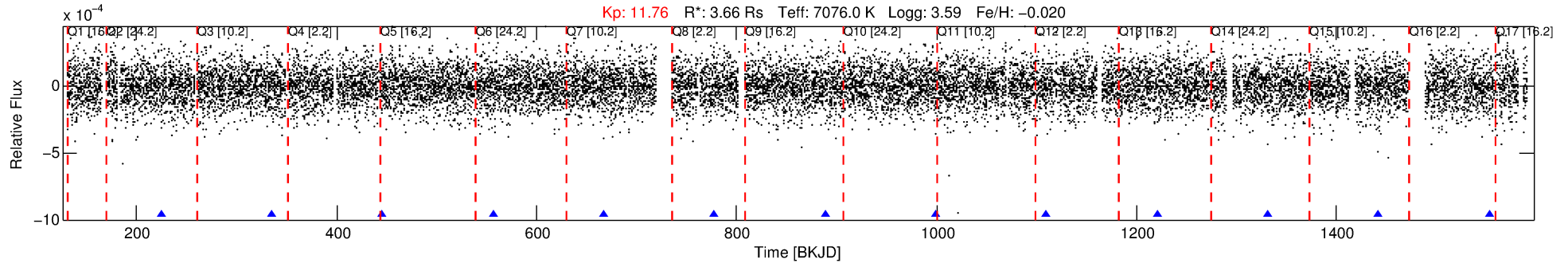
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011811140-03

No Significant Match Found

DV One-Page Summary

KIC: 11811140 Candidate: 3 of 8 Period: 110.665 d



DV Fit Results:

Period = 110.66460 [0.00087] d
Epoch = 224.5101 [0.0077] BKJD
 R_p/R^* = 0.0149 [0.0131]
 a/R^* = 182.98 [981.83]
 b = 0.86 [1.59]
 S_{eff} = 95.74 [54.54]
 T_{eq} = 798 [114] K
 R_p = 5.93 [5.63] R_e
 a = 0.5608 [0.1932] AU
 A_g = 1166.55 [2157.54] [0.54 σ]
 T_{eff} = 7207 [3191] K [2.01 σ]

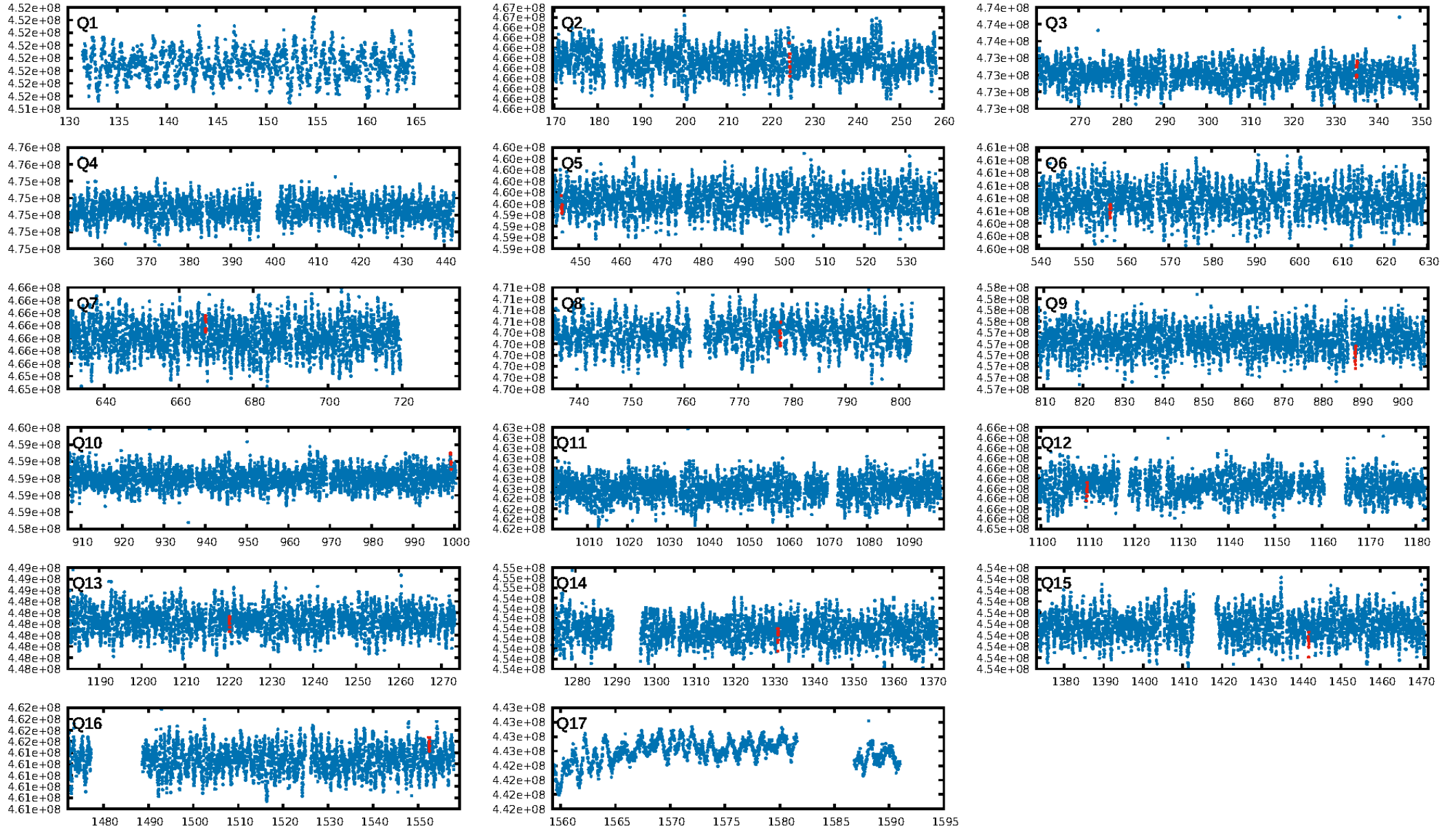
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [16.46 σ]
LongPeriod-sig: 99.0% [2.57 σ]
ModelChiSquare2-sig: 23.7%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 6.14e-10
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -0.8294
Centroid-sig: 7.9%
Centroid-so: 0.905 arcsec [1.48 σ]
OotOffset-rm: 0.492 arcsec [0.98 σ]
KicOffset-rm: 0.384 arcsec [0.74 σ]
OotOffset-st: 4/3/2/2 [11]
KicOffset-st: 4/3/2/2 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 0.08 [1/12]

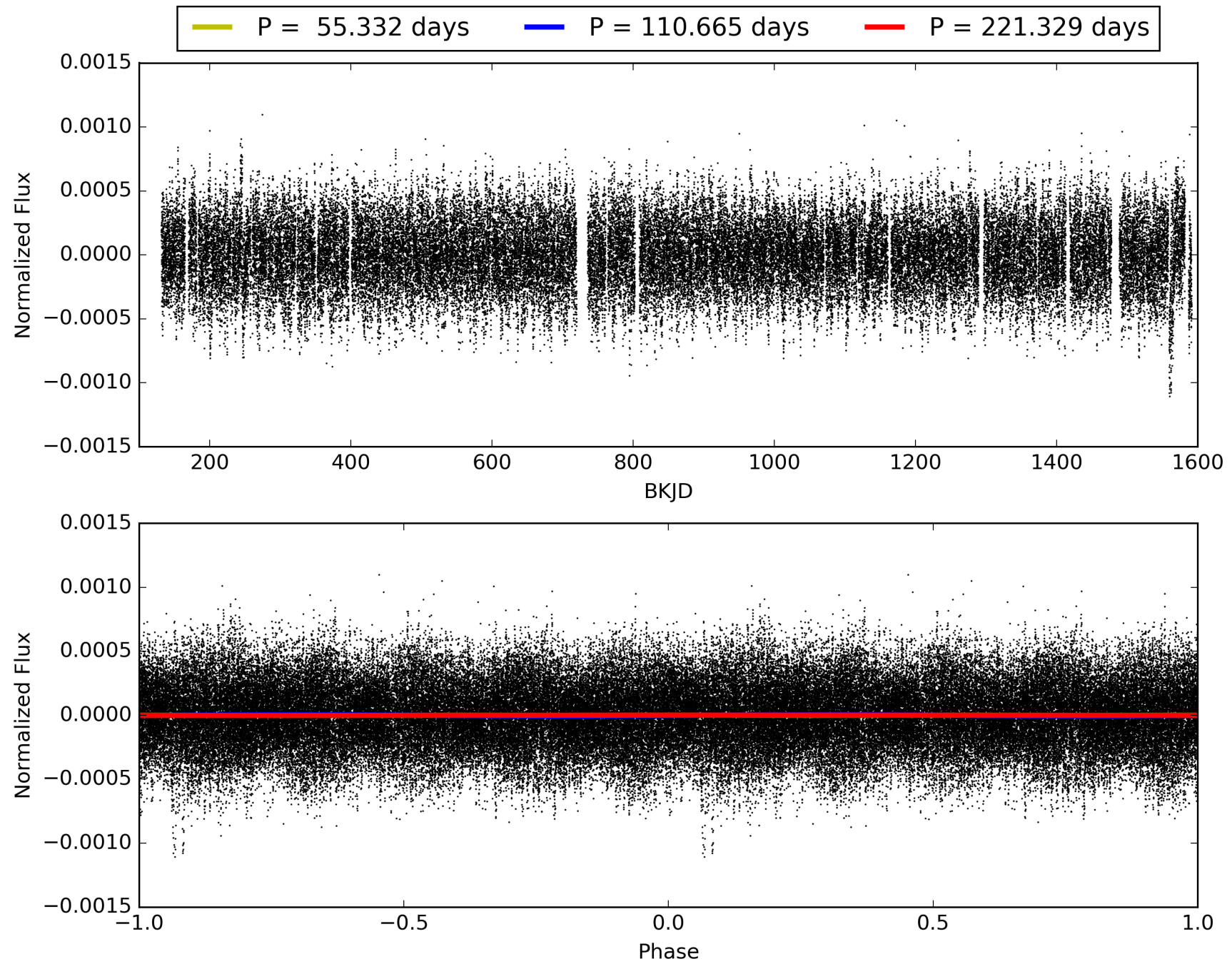
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:05:49 Z

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

TCE 011811140-03, PDC Light Curves

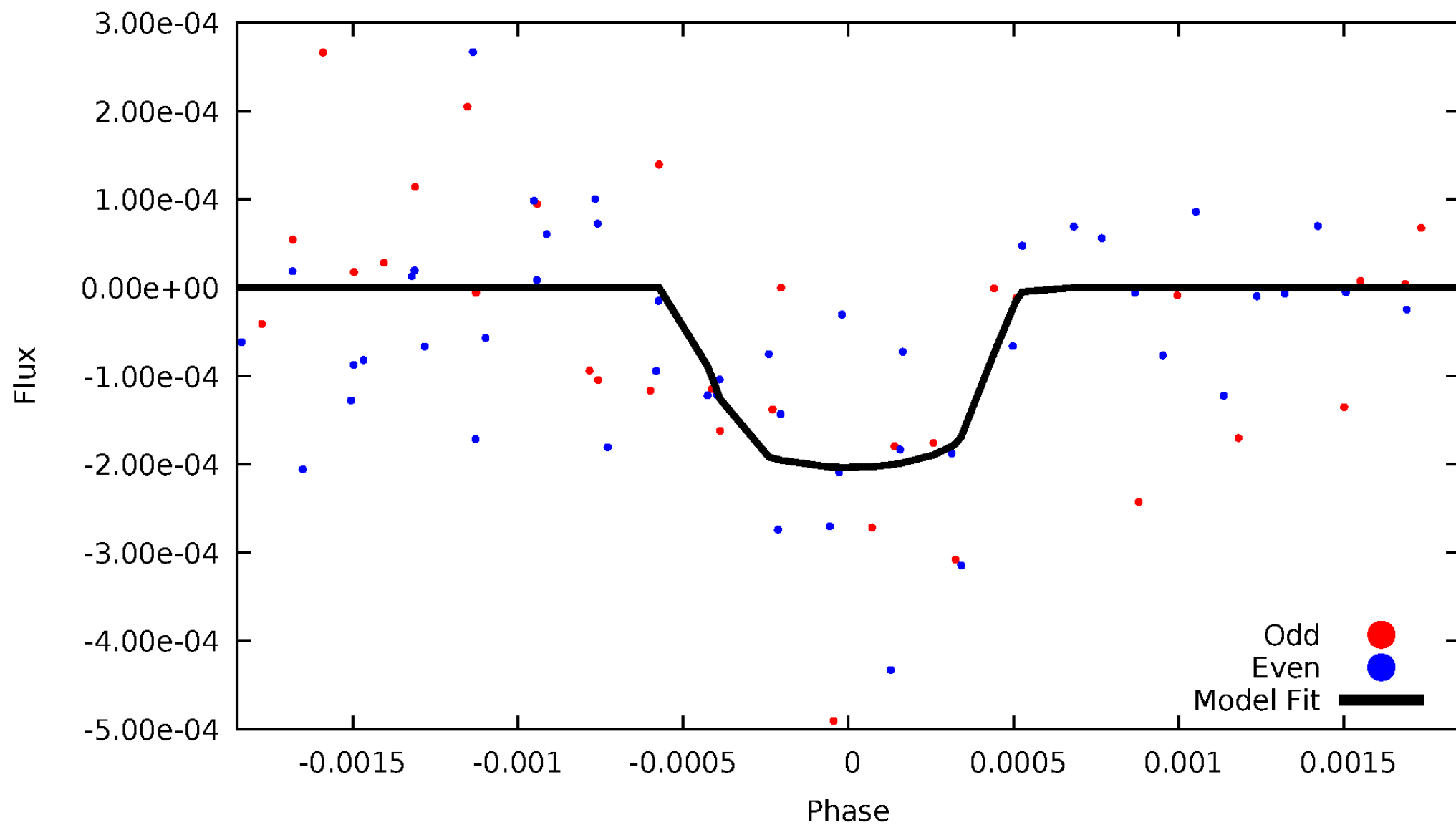


TCE 011811140-03



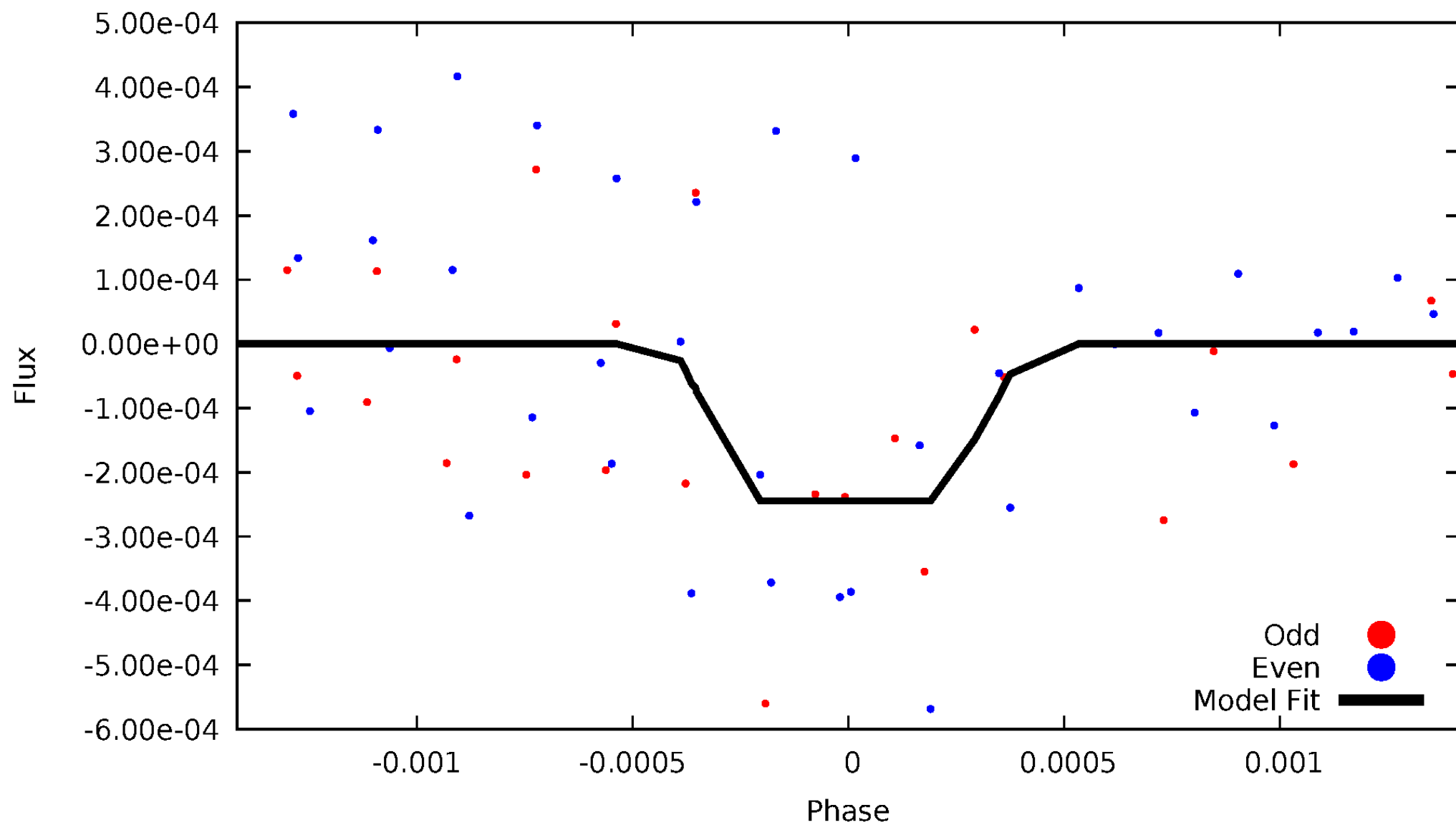
DV Odd/Even

TCE 011811140-03



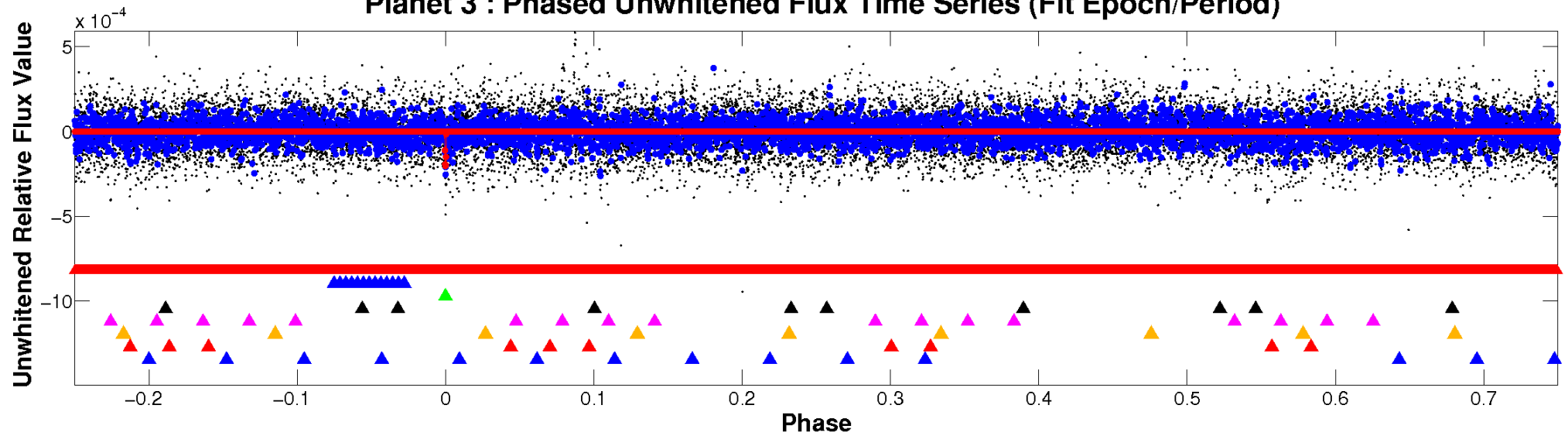
ALT Odd/Even

TCE 011811140-03

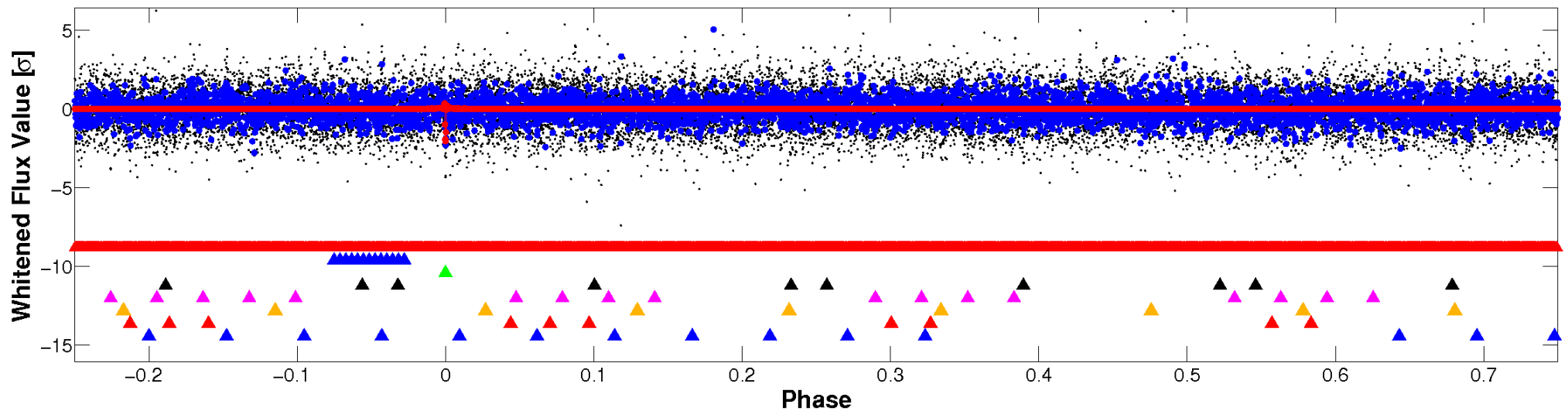


Non-Whitened Vs. Whitened Light Curve

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

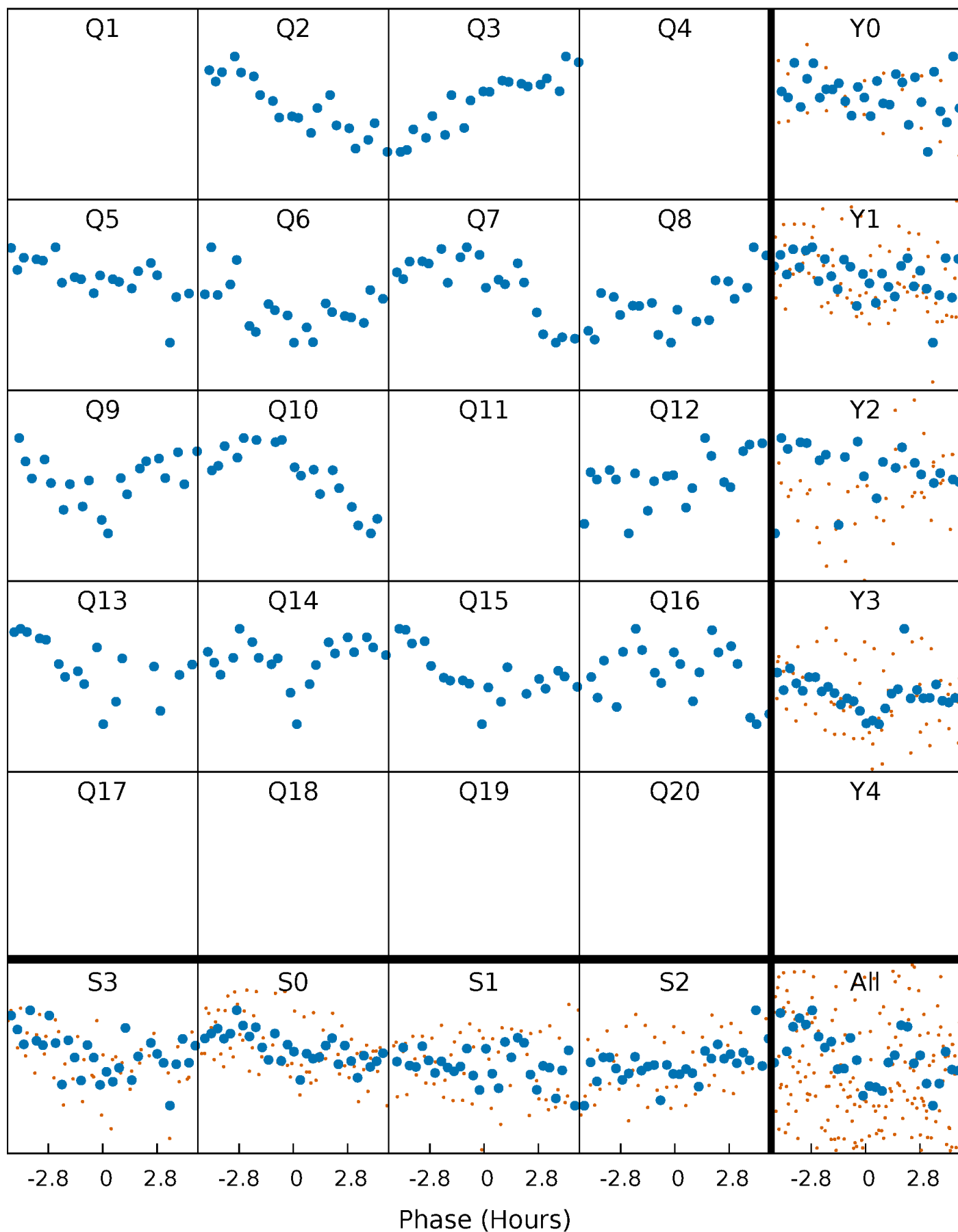


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



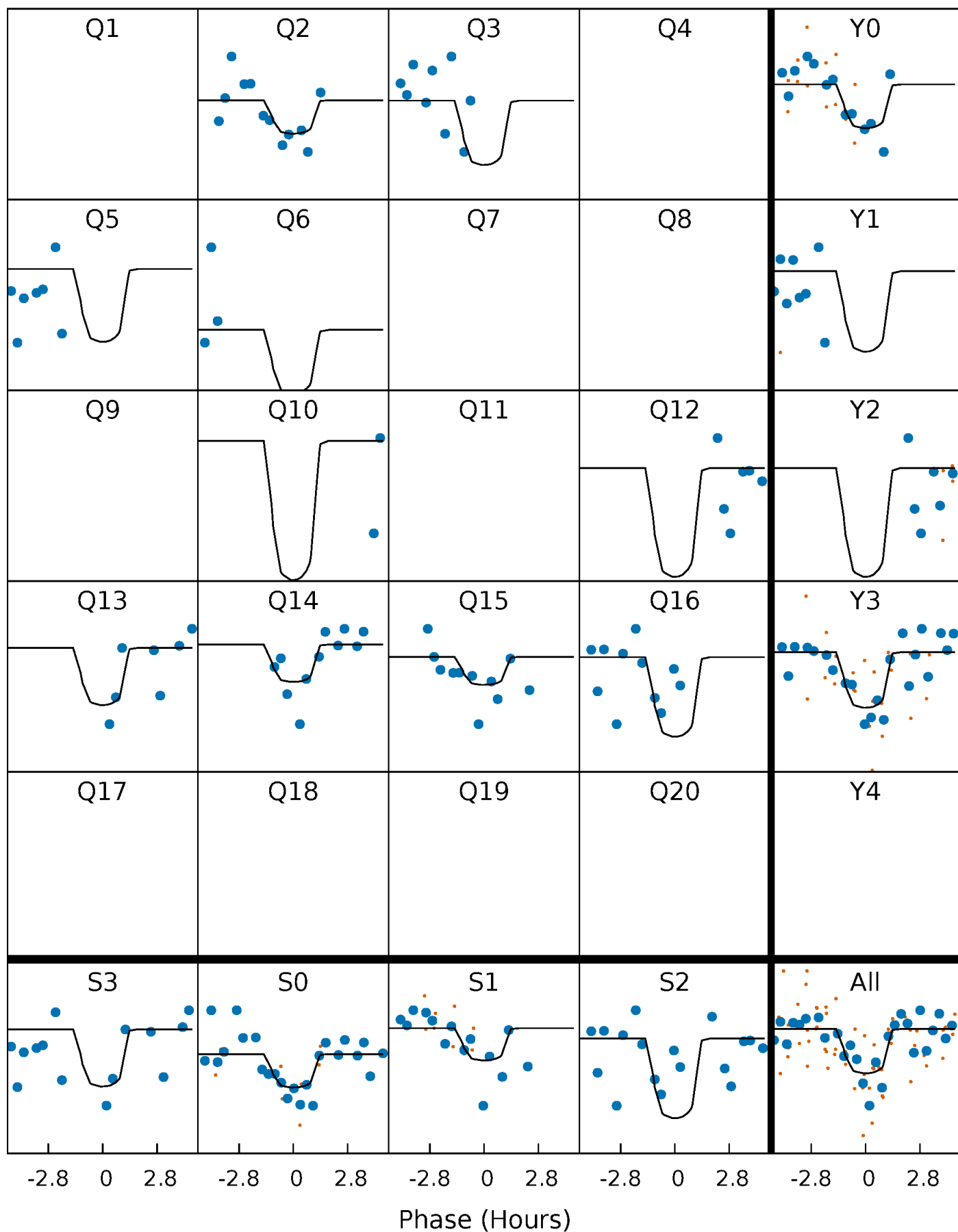
PDC Quarter-Phased Transit Curves

TCE 011811140-03 P=110.664599 Days $T_0=224.510088$ (BKJD)



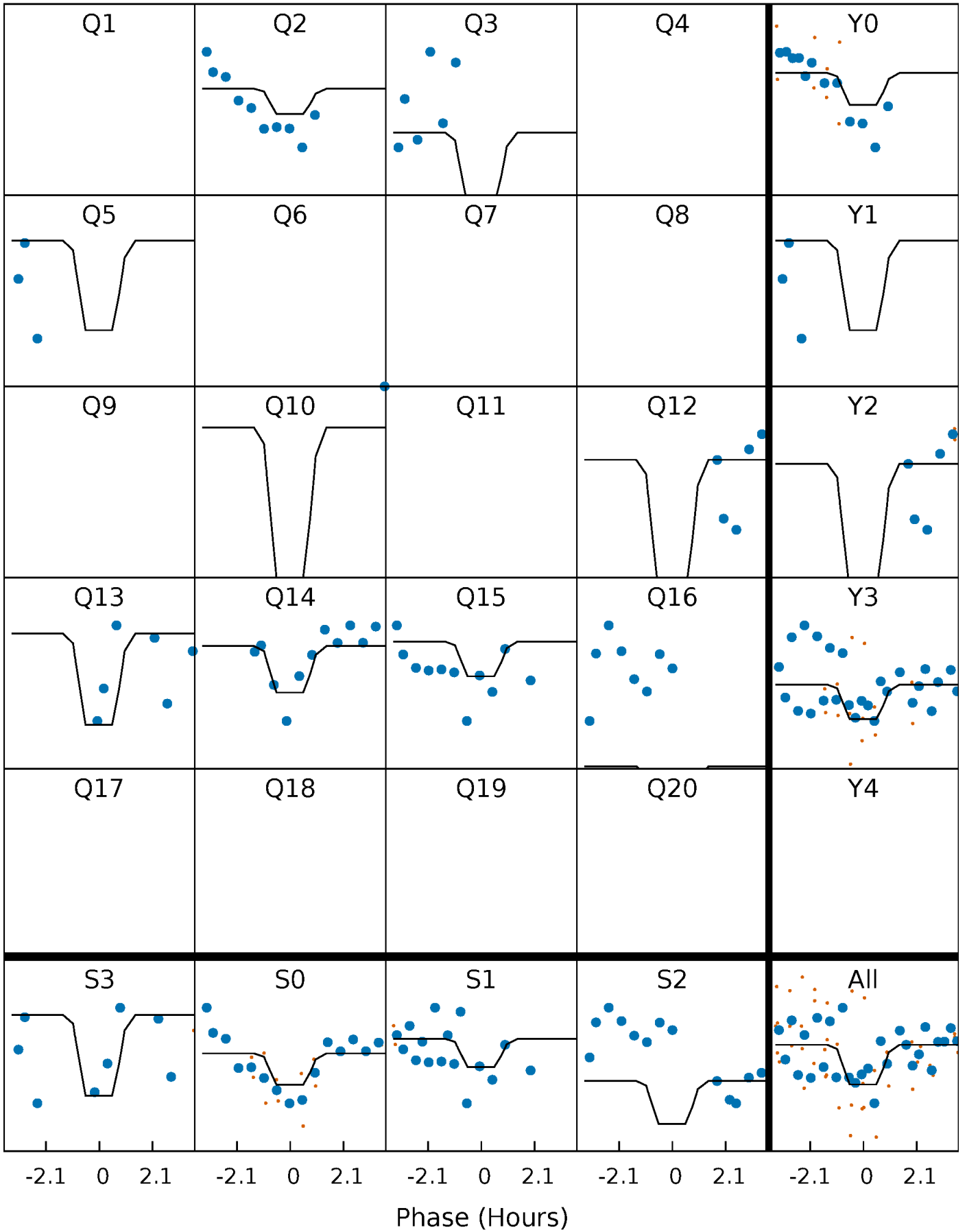
DV Quarter-Phased Transit Curves

TCE 011811140-03 P=110.664599 Days $T_0=224.510088$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

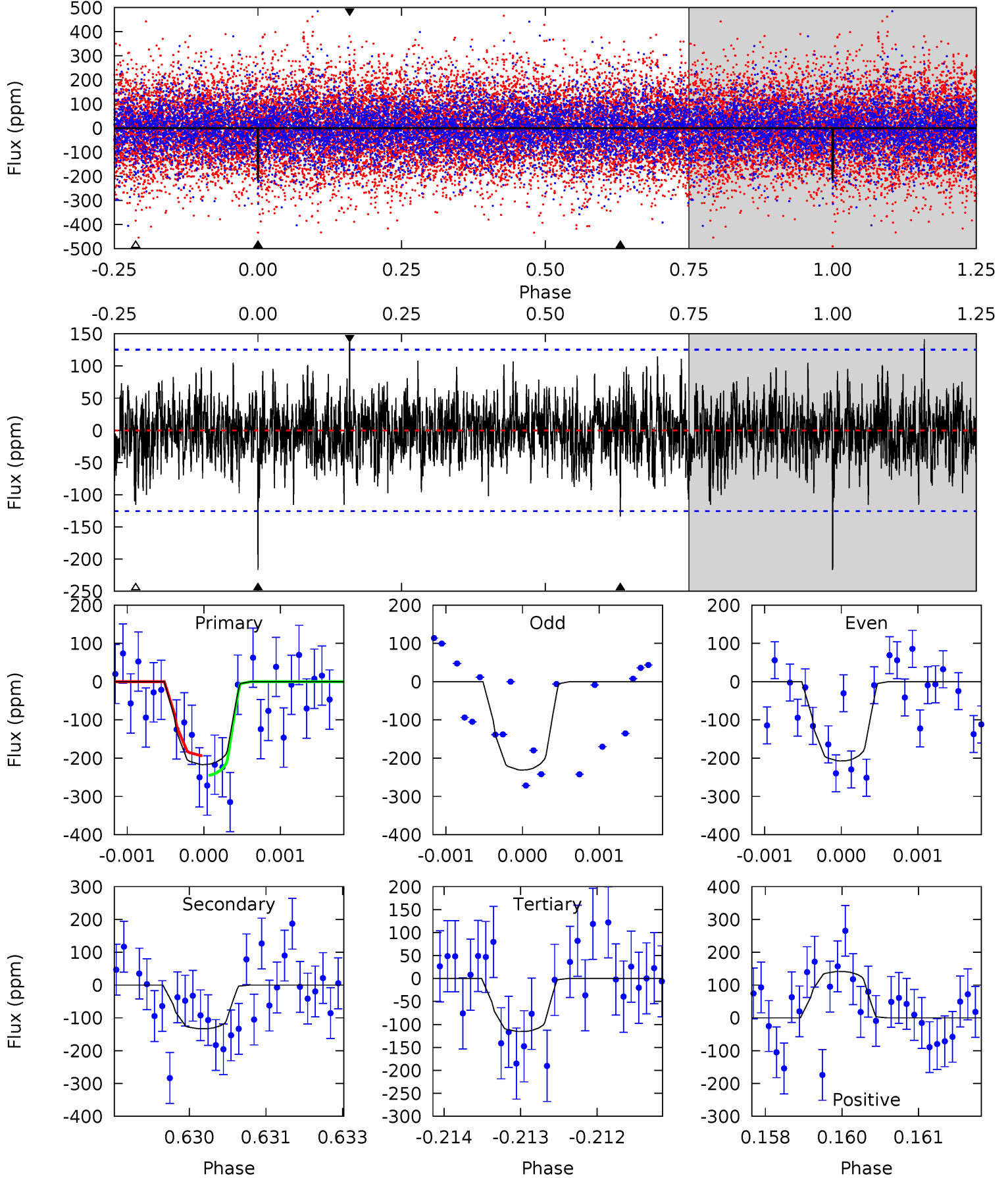
TCE 011811140-03 P=110.664568 Days $T_0=224.526791$ (BKJD)



DV Model-Shift Uniqueness Test

011811140-03, P = 110.664599 Days, E = 113.845489 Days

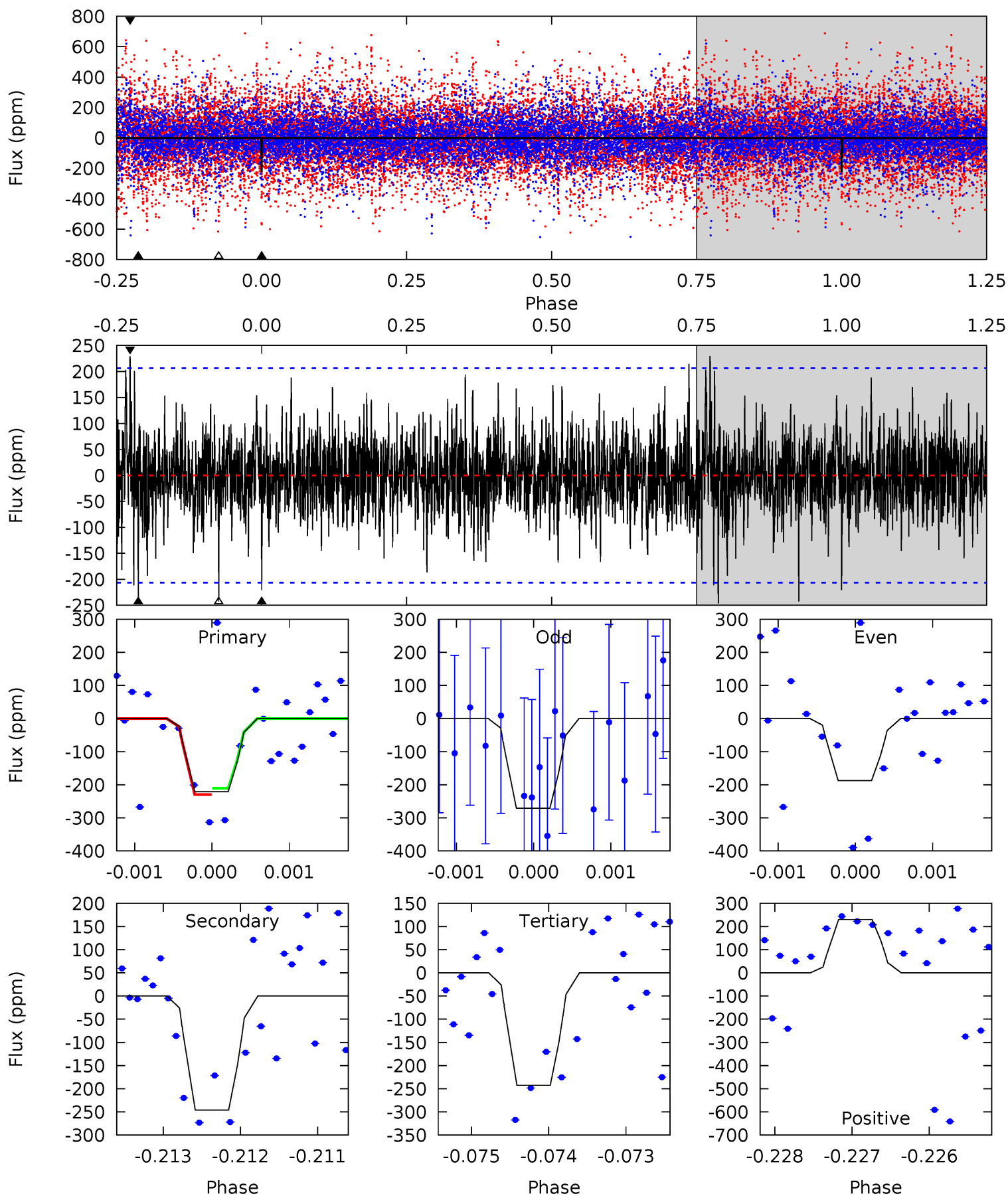
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.40	5.78	5.01	6.13	5.43	3.26	1.51	4.39	3.26	0.77	-0.35	0.51	0.84	0.39	1.13



Alt Model-Shift Uniqueness Test

011811140-03, P = 110.664568 Days, E = 113.862223 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.85	6.52	6.43	6.10	5.47	3.32	1.48	-0.58	-0.24	0.09	0.43	1.09	0.76	0.48	0.25



Stellar Parameters For KIC 011811140

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7076^{+168}_{-252}	$3.594^{+0.324}_{-0.054}$	$-0.020^{+0.250}_{-0.250}$	$3.661^{+0.327}_{-1.310}$	$1.919^{+0.155}_{-0.336}$	$0.055^{+0.126}_{-0.010}$
	+2%/-4%	+9%/-2%	+1250%/-1250%	+9%/-36%	+8%/-18%	+228%/-18%
Source	PHO1	FLK73	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 011811140-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-133 ± 23	$6.03^{+5.17}_{-3.76}$	1082^{+59}_{-105}	5832^{+4524}_{-1284}	643^{+3634}_{-460}
Alt.	-246 ± 38	$6.45^{+4.27}_{-4.18}$	1084^{+57}_{-103}	6599^{+6293}_{-1427}	1015^{+6685}_{-668}

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

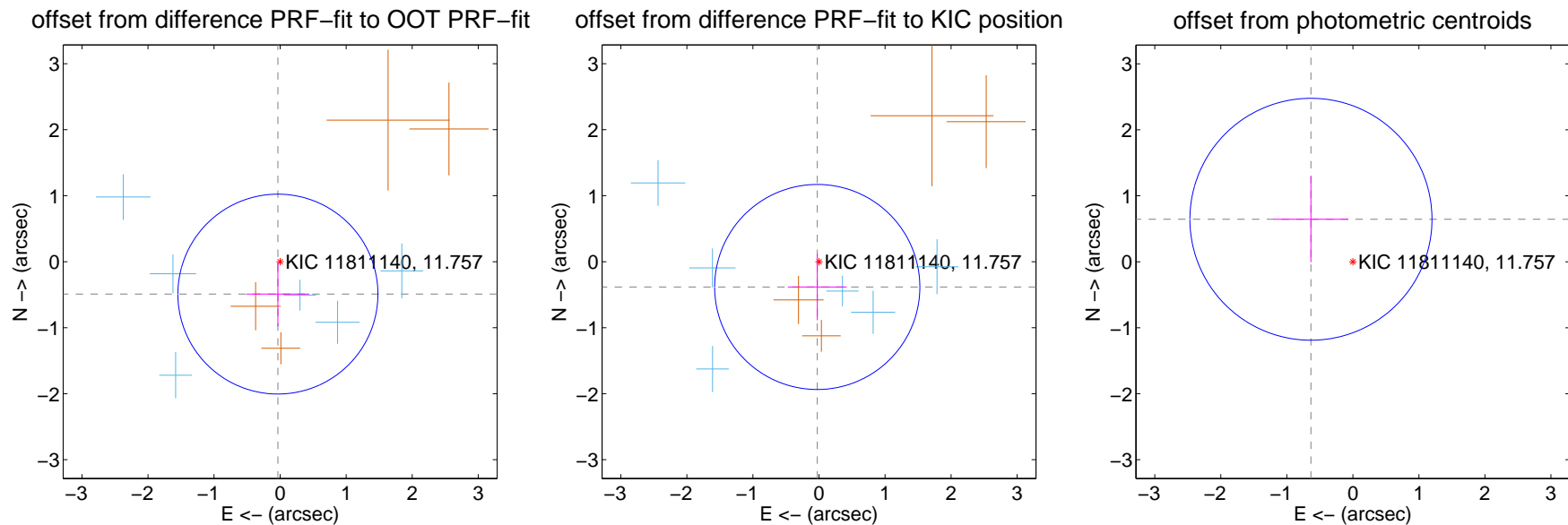
DV Centroid Data

Supplemental centroid analysis for 011811140-03. **Kepler magnitude: 11.76.** Transit SNR 8.39

There are 6 quarters with good PRF difference image offsets

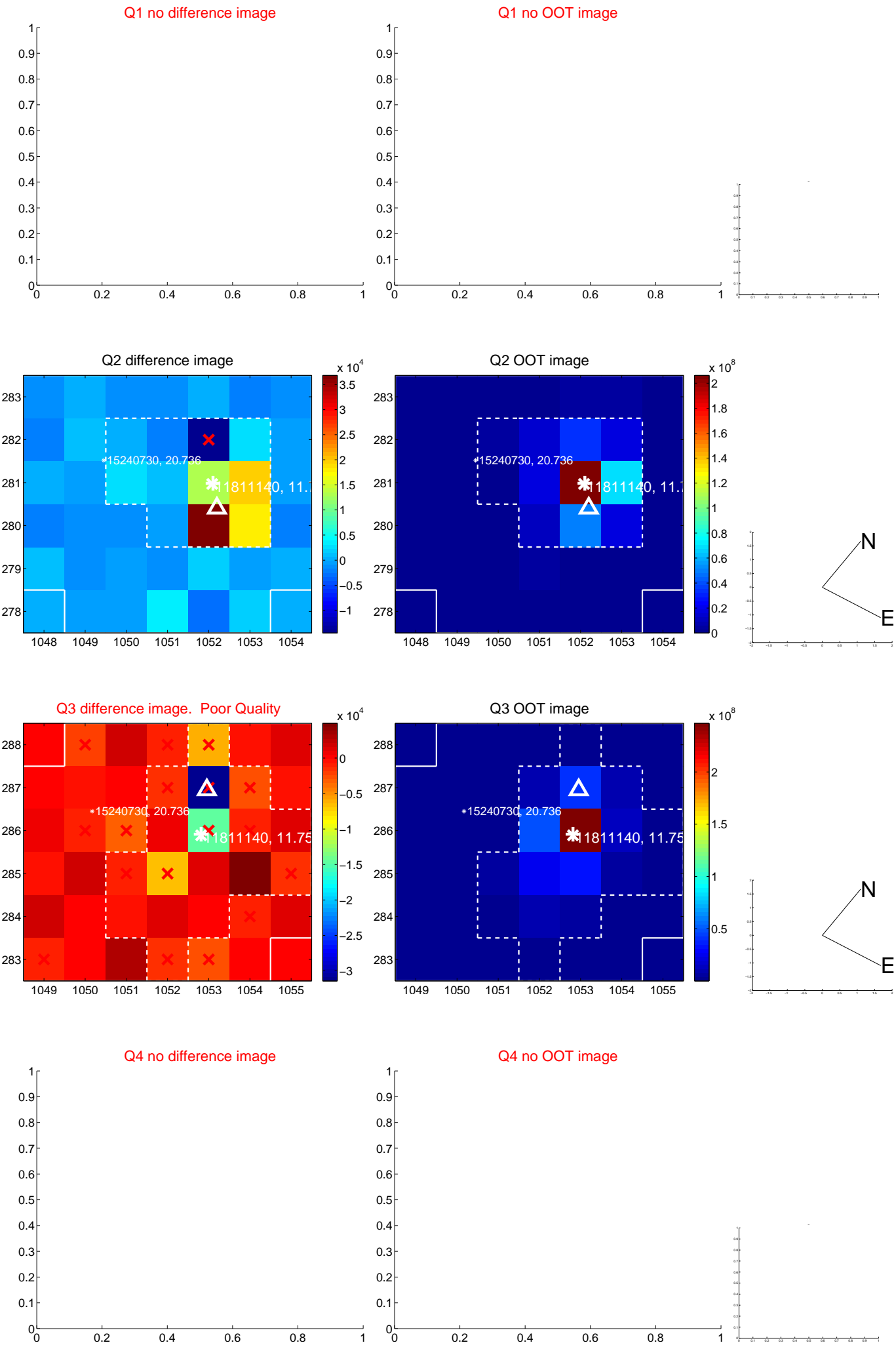
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.492 ± 0.505	0.98	0.033 ± 0.477	-0.491 ± 0.487
PRF-fit source offset from KIC position	0.384 ± 0.518	0.74	0.026 ± 0.446	-0.383 ± 0.504
photometric centroid source offset	0.90 ± 0.61	1.48	0.63 ± 0.57	0.64 ± 0.65

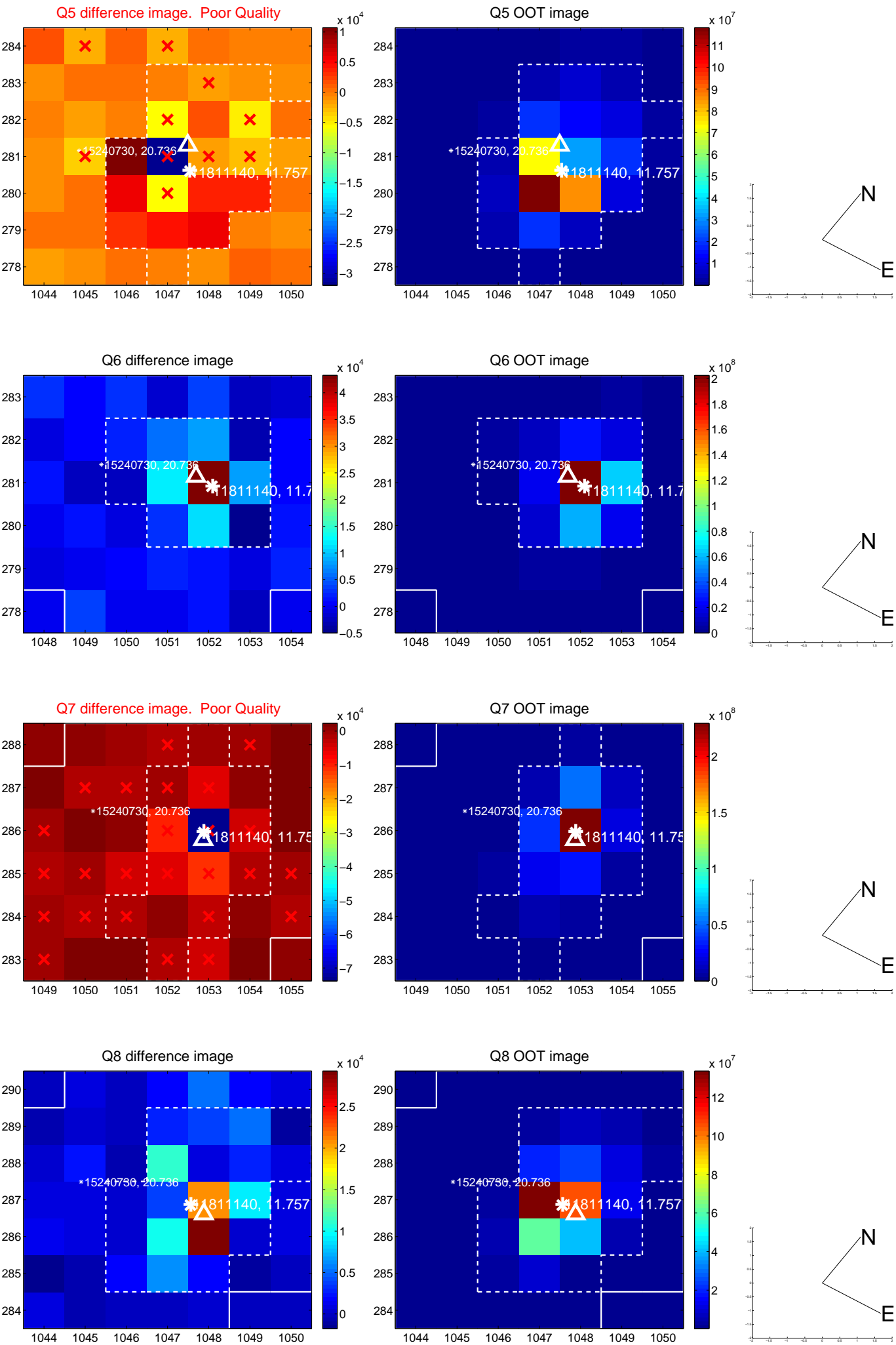


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

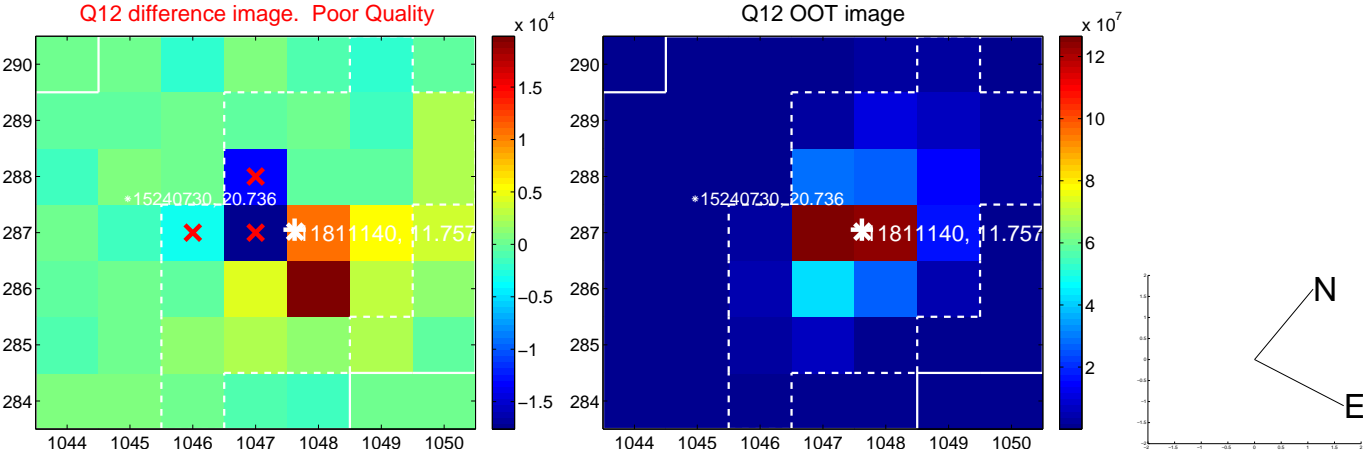
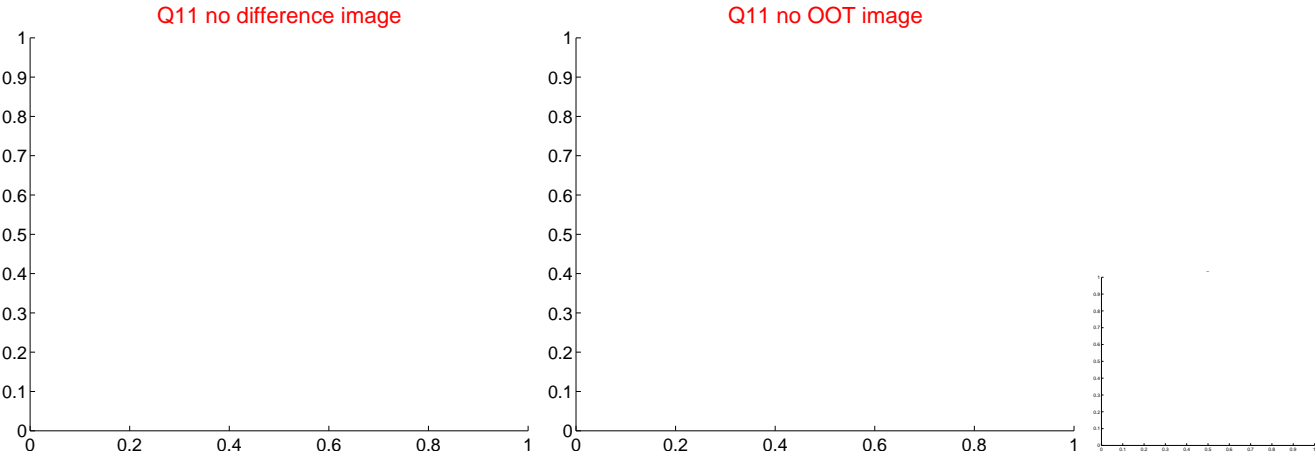
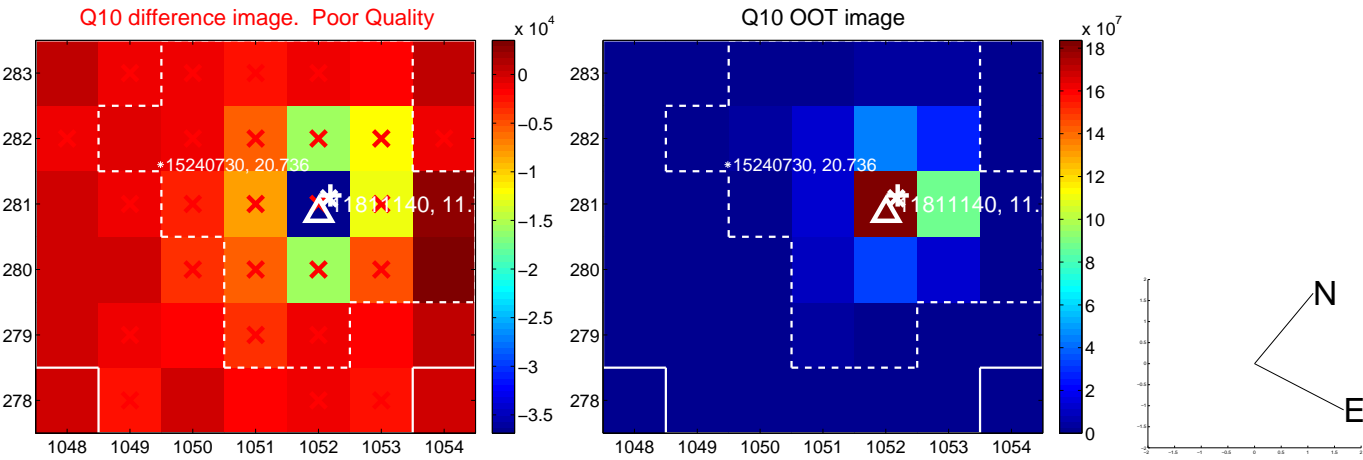
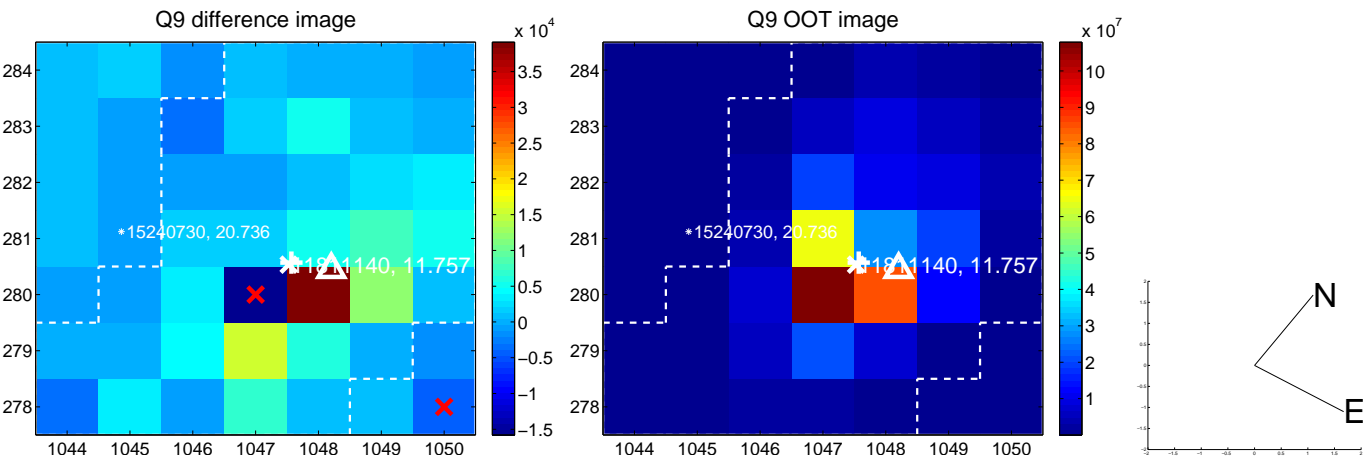
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



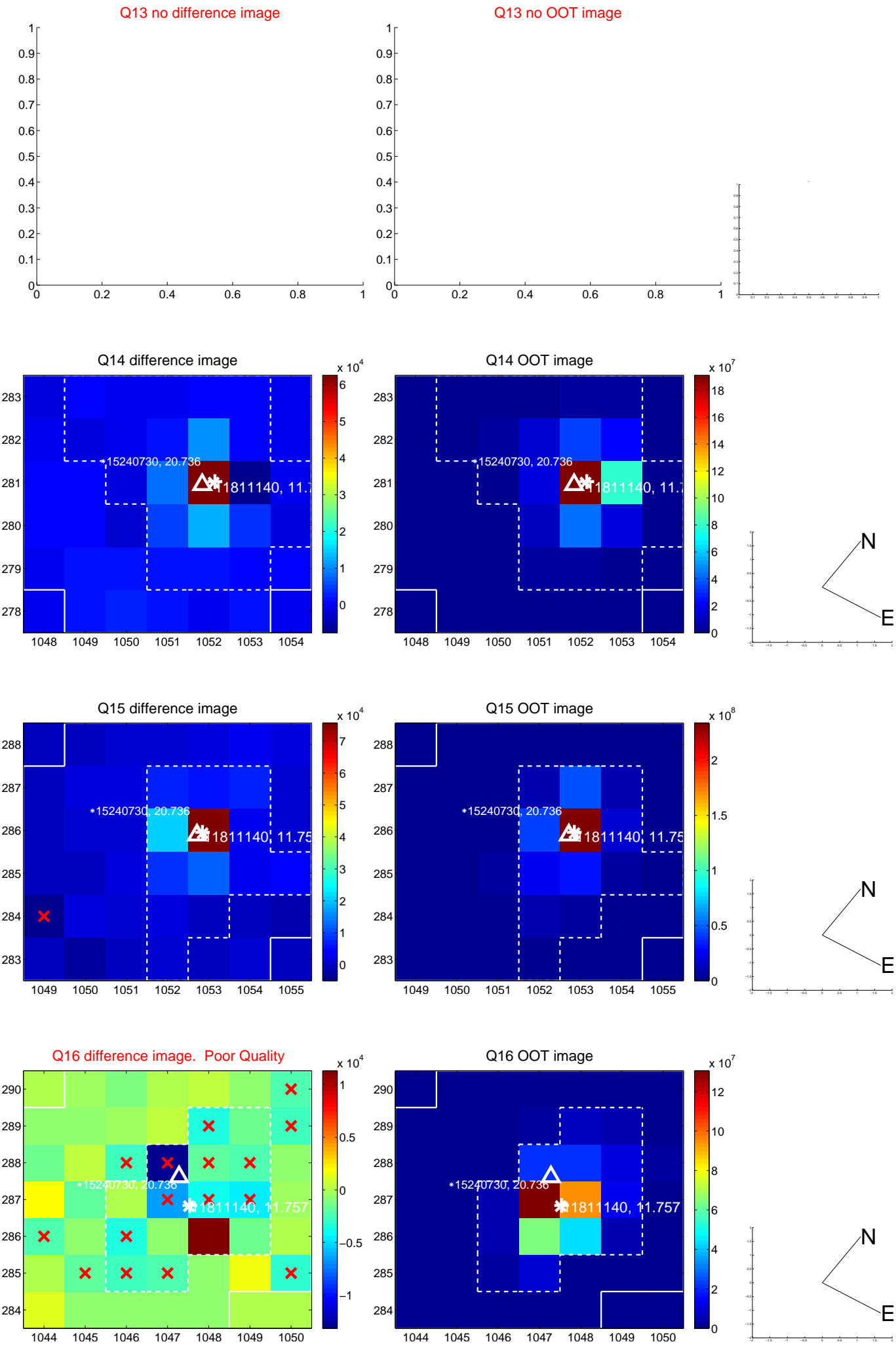
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



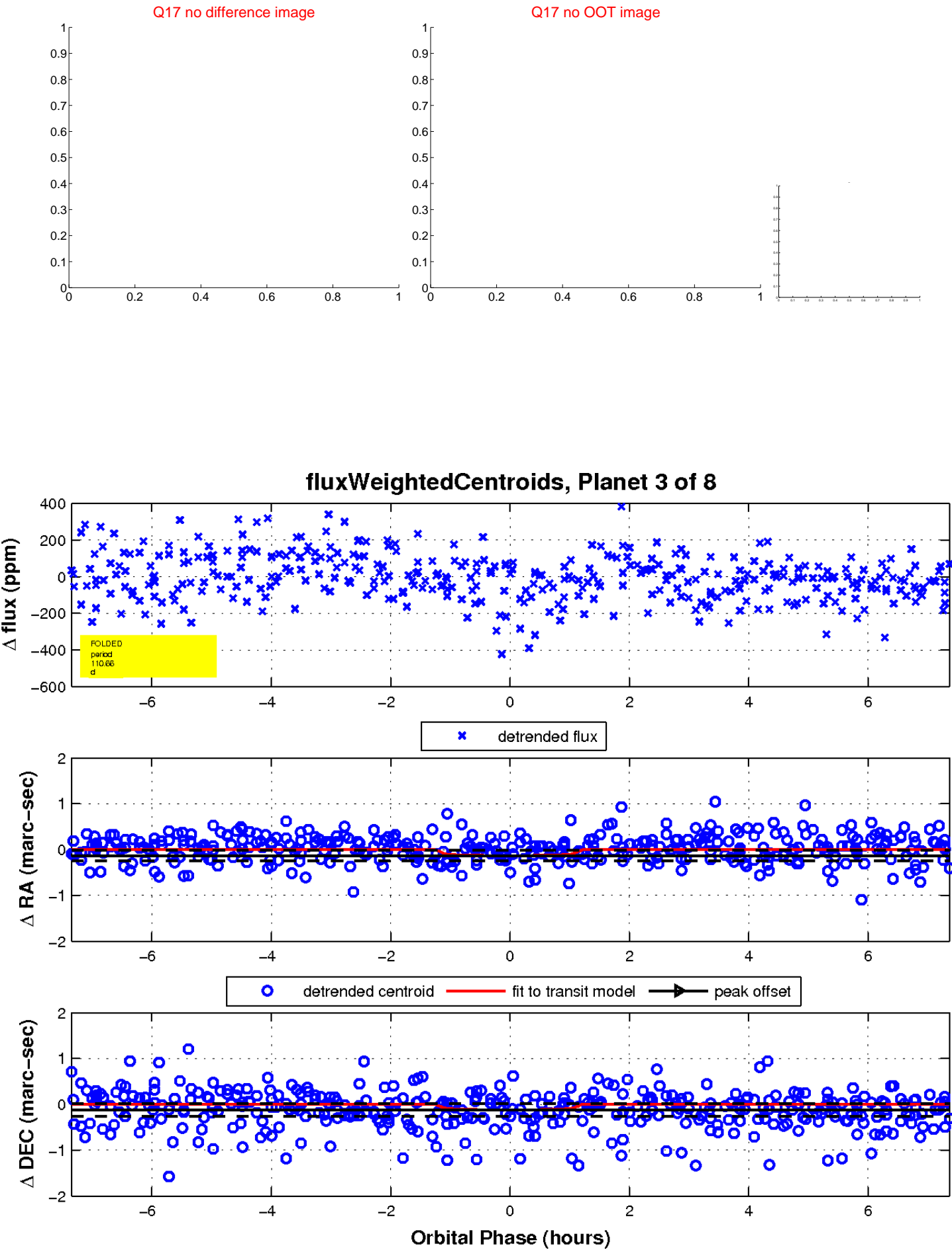
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

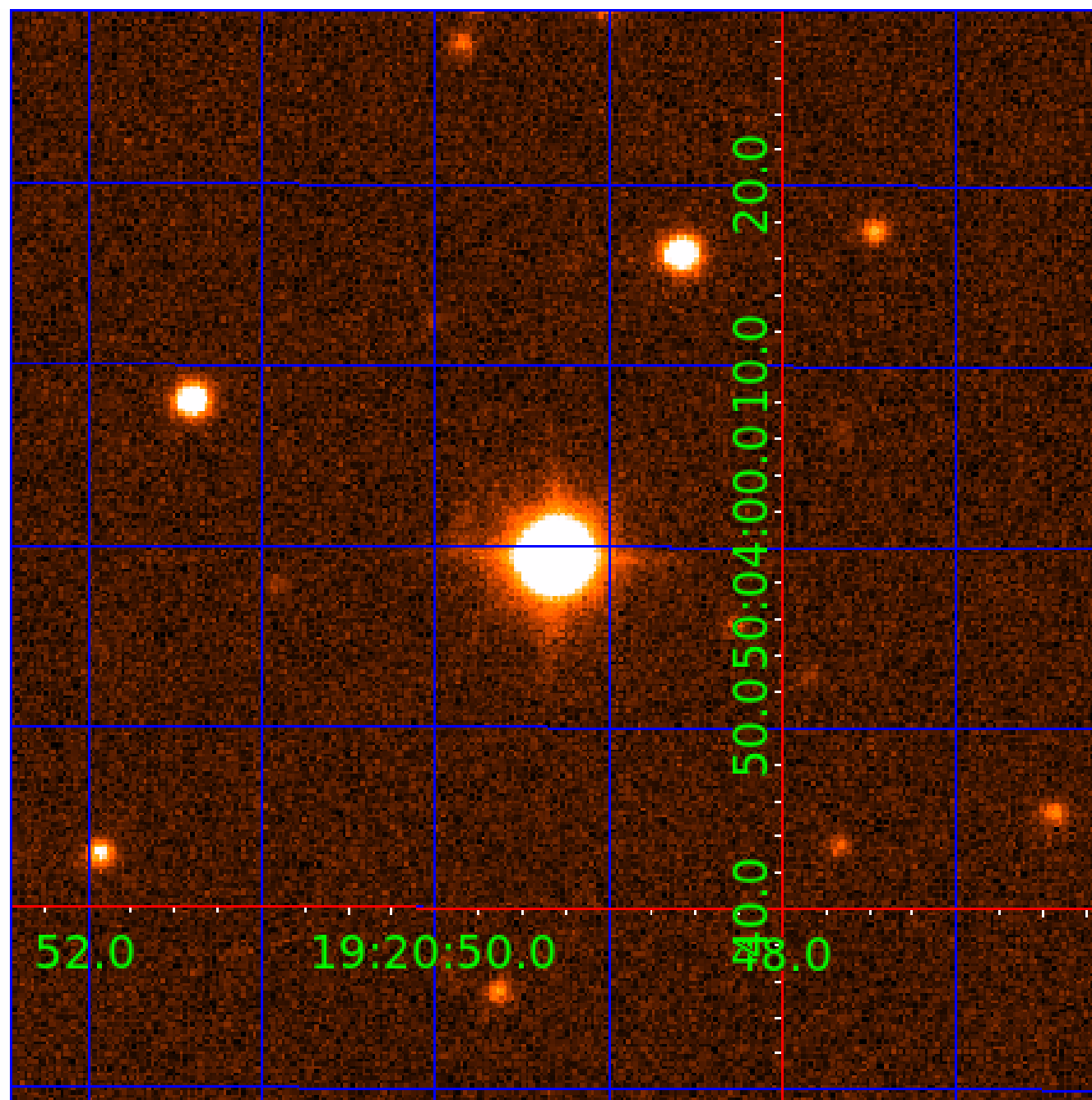


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011811140

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})
011811140-01	OBS	No	0.807258	132.027011	18.8	4.414	9.4	10.7	3.66	7076	1.68	67675.13
011811140-02	OBS	No	111.100730	216.201662	225.8	3.240	8.9	8.8	3.66	7076	6.00	95.24
011811140-03	OBS	No	110.664599	224.510088	203.6	2.456	8.8	8.4	3.66	7076	5.93	95.74
011811140-04	OBS	No	142.663359	218.297691	294.8	1.797	8.7	7.6	3.66	7076	6.82	68.24
011811140-05	OBS	No	83.860304	199.528002	210.3	3.341	8.4	8.4	3.66	7076	5.99	138.58
011811140-06	OBS	No	160.333575	211.811004	217.9	11.065	7.8	9.1	3.66	7076	6.43	58.40
011811140-07	OBS	No	139.061696	200.981521	275.9	1.868	7.9	8.2	3.66	7076	7.07	70.61
011811140-08	OBS	No	104.873512	149.632424	185.2	8.082	7.8	8.2	3.66	7076	6.38	102.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011811140-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
011811140-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
011811140-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011811140-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011811140-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

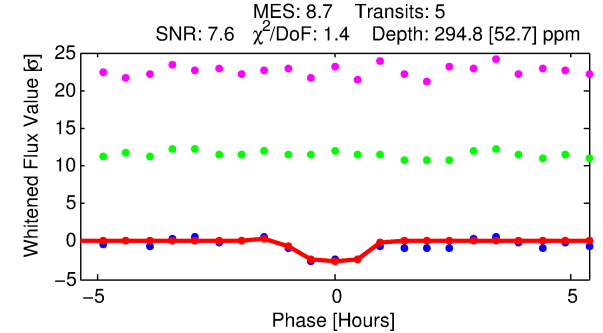
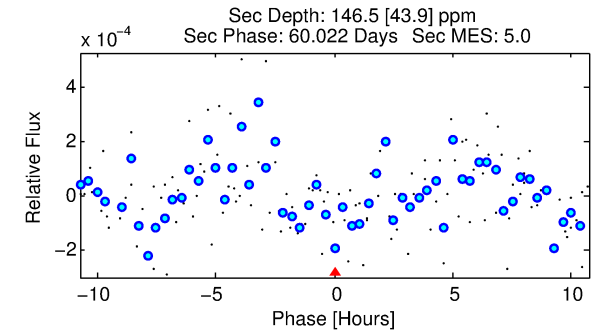
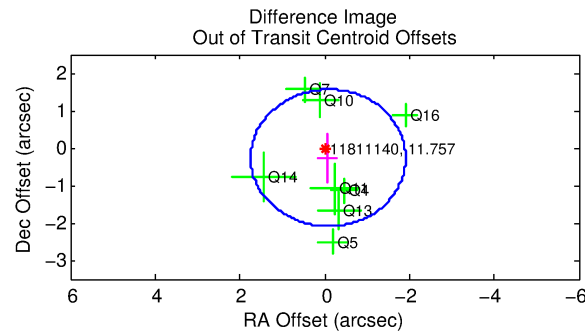
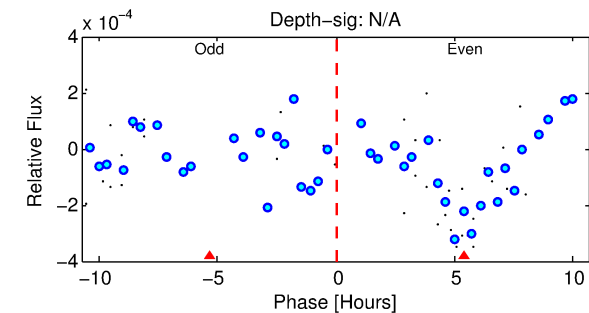
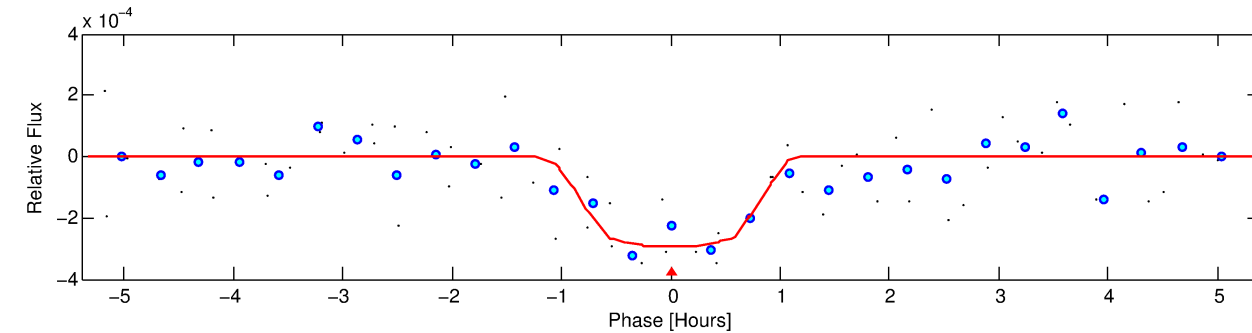
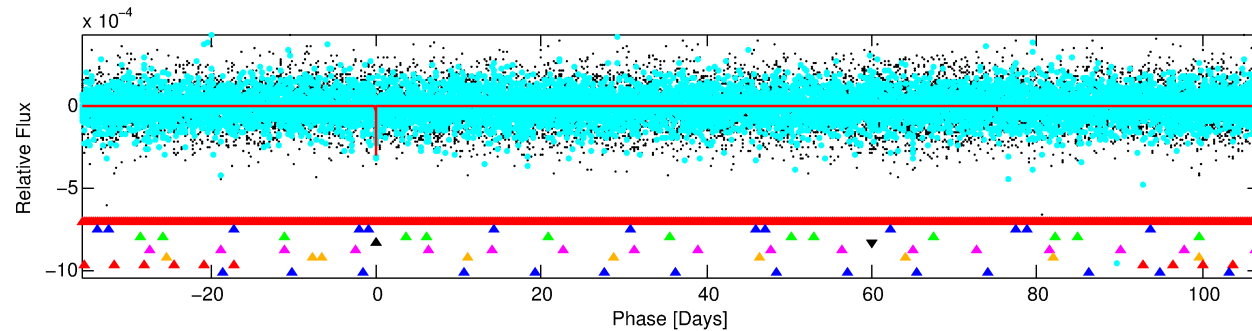
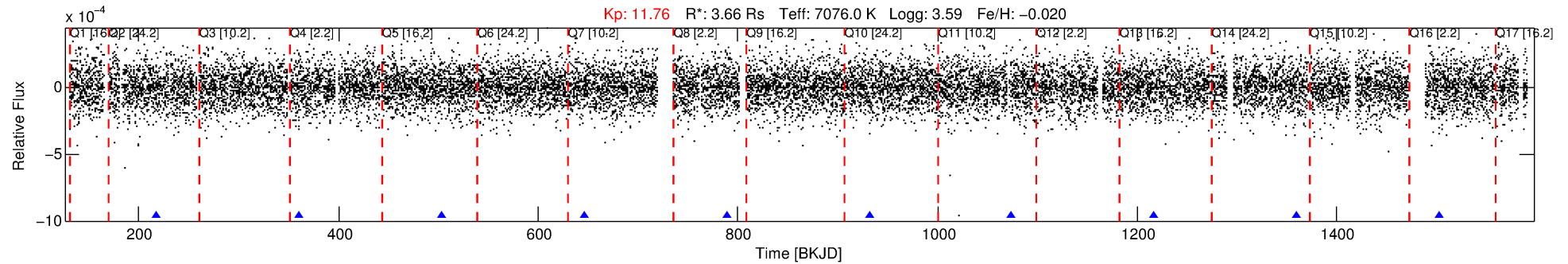
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011811140-04

No Significant Match Found

DV One-Page Summary

KIC: 11811140 Candidate: 4 of 8 Period: 142.663 d



DV Fit Results:

Period = 142.66336 [0.00115] d
Epoch = 218.2977 [0.0070] BKJD
Rp/R* = 0.0171 [0.0292]
a/R* = 423.98 [4326.08]
b = 0.74 [6.37]
Seff = 68.24 [38.88]
Teq = 733 [104] K
Rp = 6.82 [11.90] Re
a = 0.6642 [0.2289] AU
Ag = 765.65 [2661.33] [0.29σ]
Teffp = 5960 [5118] K [1.02σ]

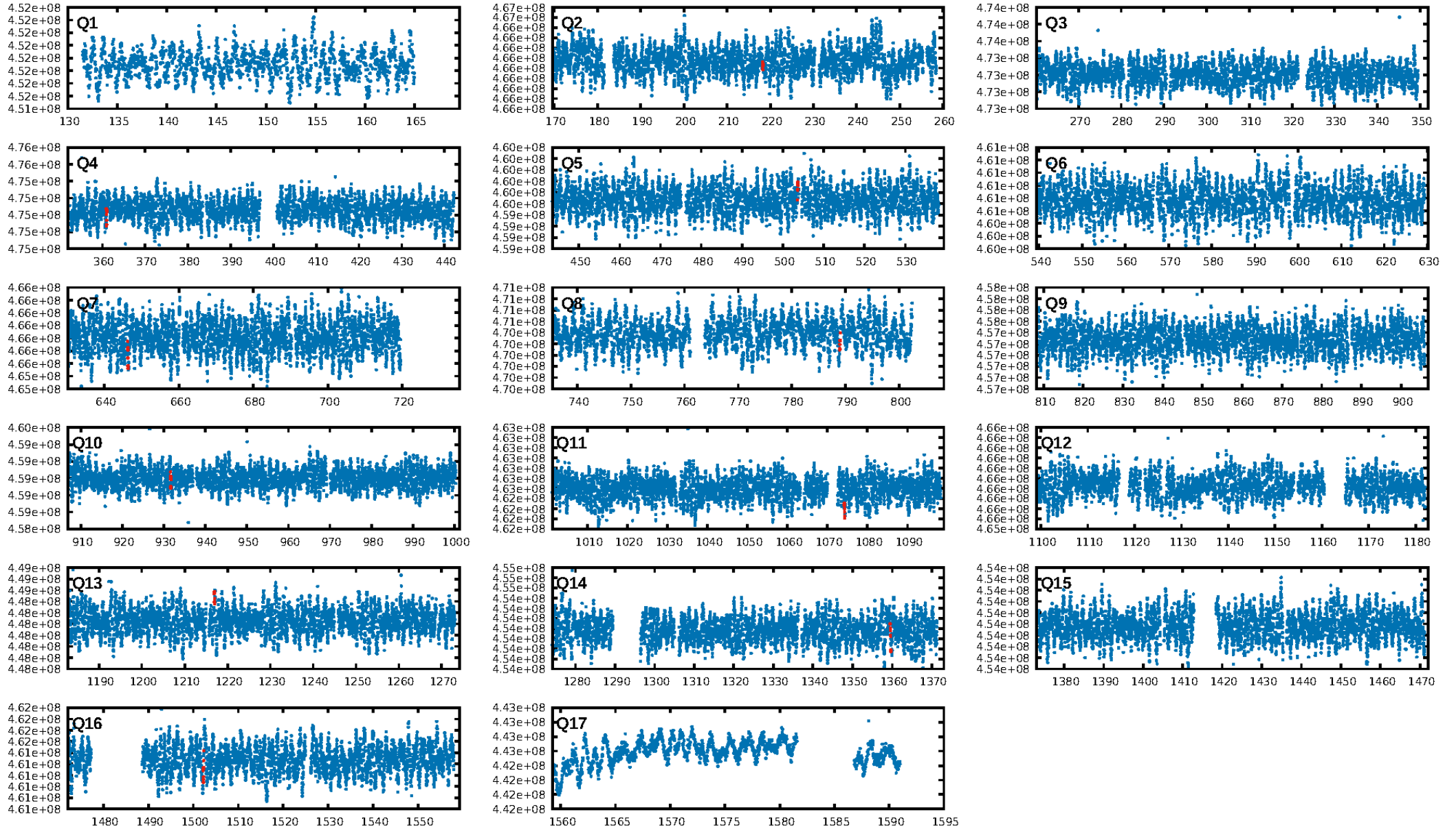
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [33.35σ]
LongPeriod-sig: 100.0% [37.83σ]
ModelChiSquare2-sig: 58.2%
ModelChiSquareGof-sig: 98.8%
Bootstrap-pfa: 2.06e-09
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.1633
Centroid-sig: 22.9%
Centroid-so: 0.666 arcsec [1.27σ]
OotOffset-rm: 0.280 arcsec [0.46σ]
KicOffset-rm: 0.179 arcsec [0.35σ]
OotOffset-st: 2/2/2 [8]
KicOffset-st: 2/2/2 [8]
DiffImageQuality-fgm: 0.62 [5/8]
DiffImageOverlap-fno: 0.10 [1/10]

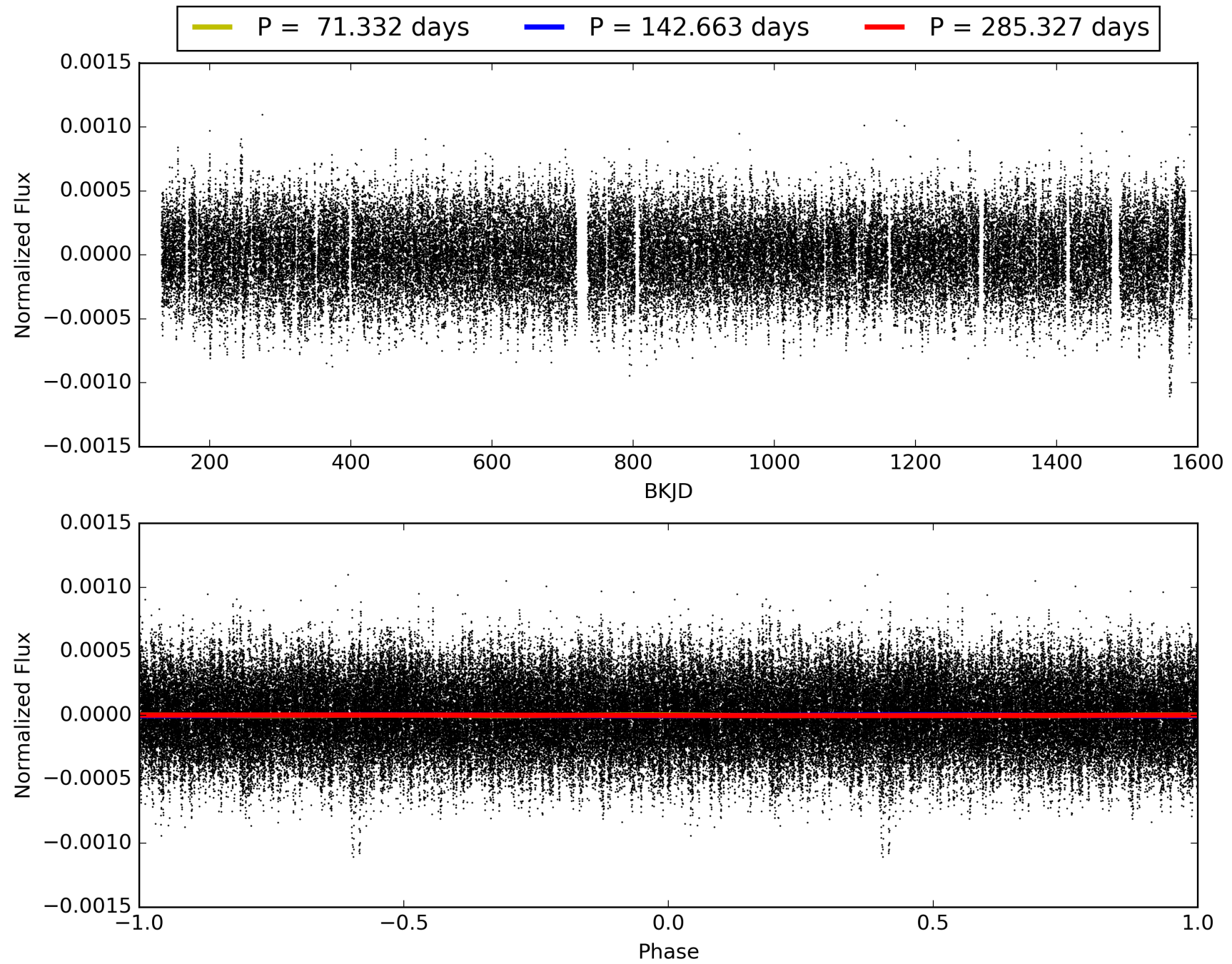
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:05:56 Z

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

TCE 011811140-04, PDC Light Curves

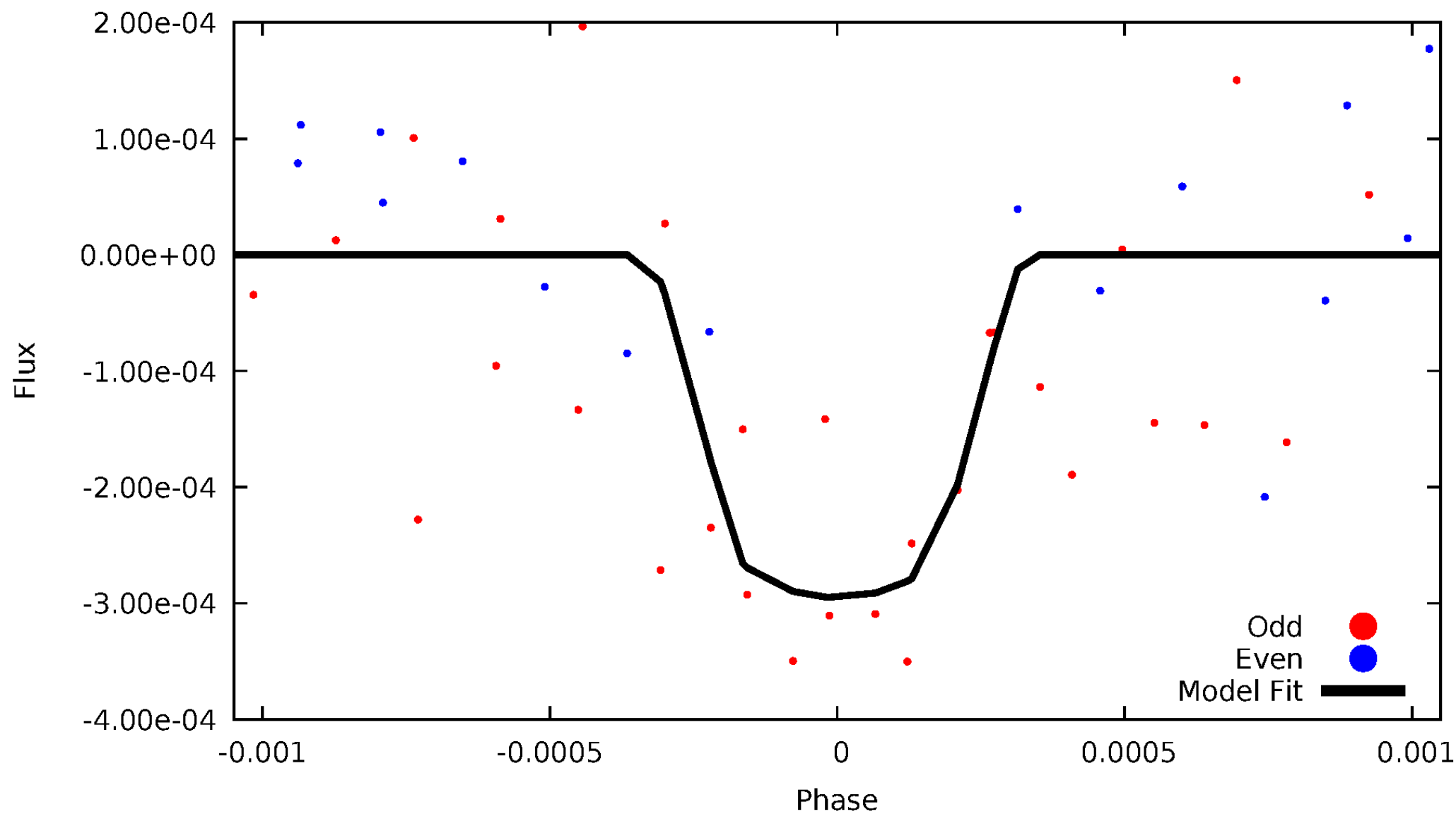


TCE 011811140-04



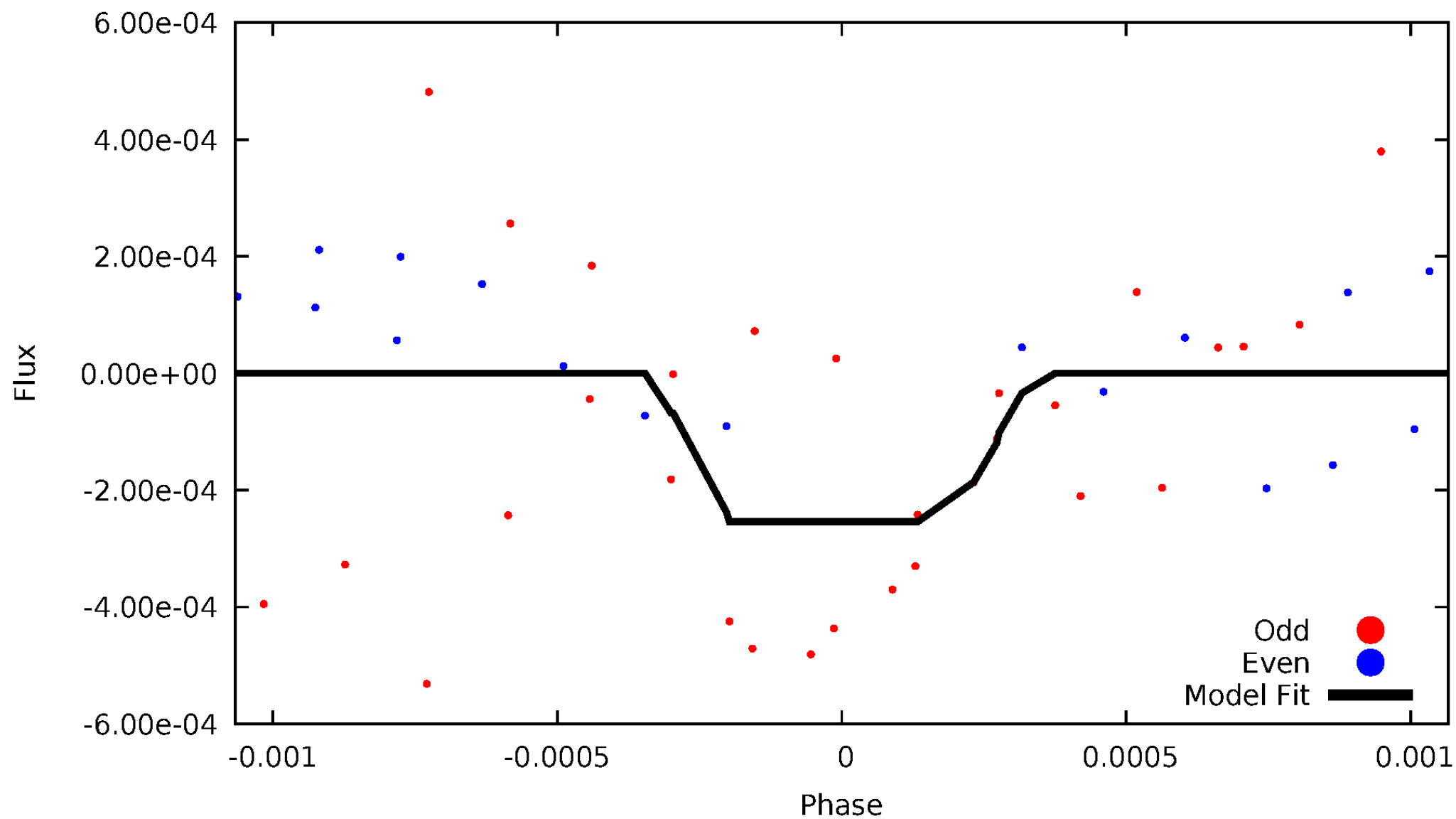
DV Odd/Even

TCE 011811140-04



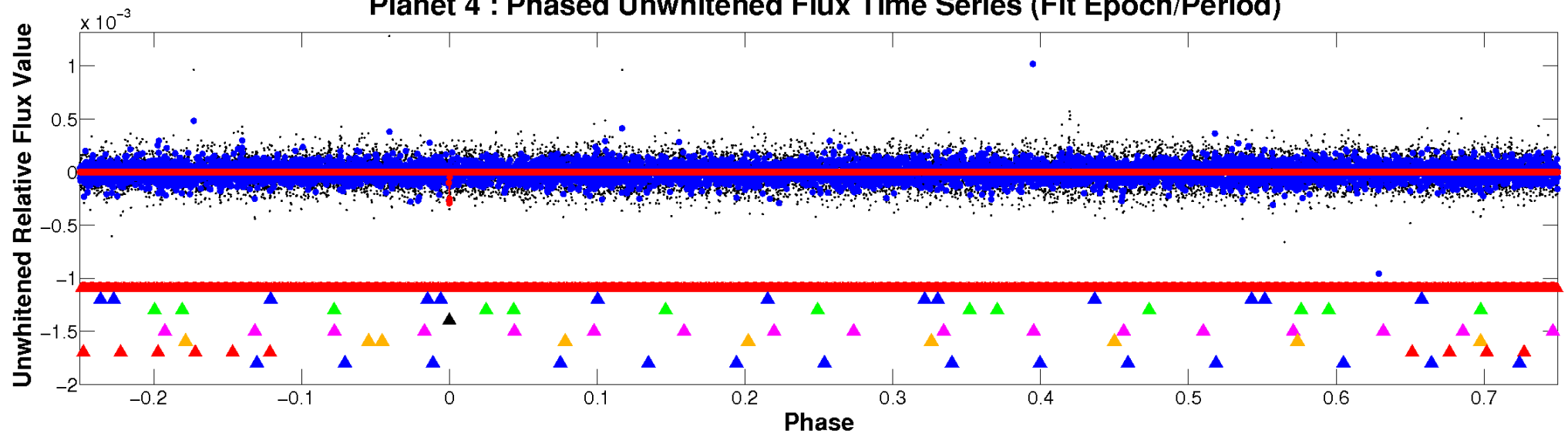
ALT Odd/Even

TCE 011811140-04

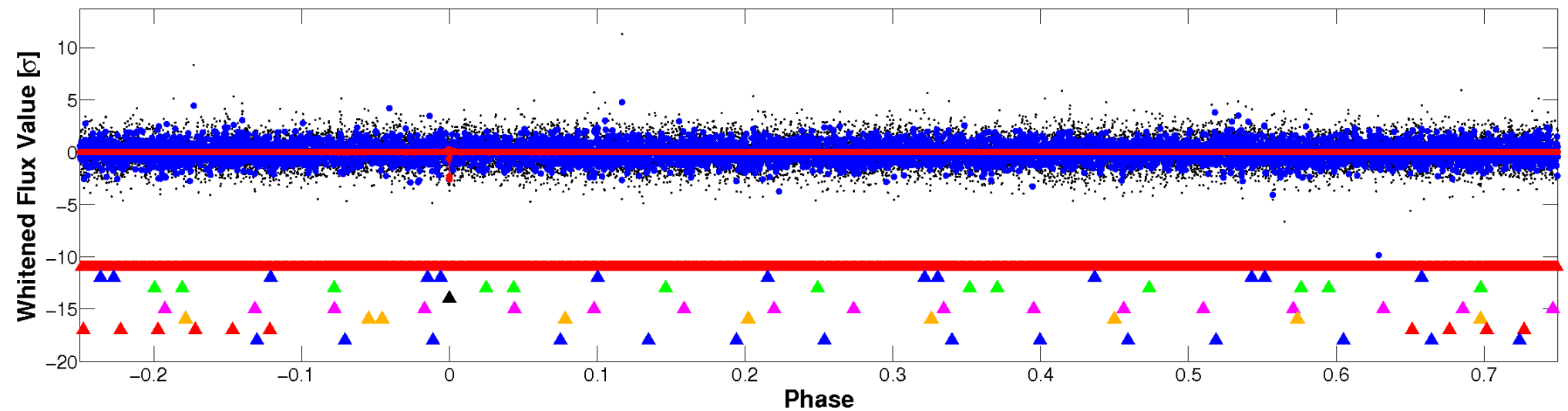


Non-Whitened Vs. Whitened Light Curve

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

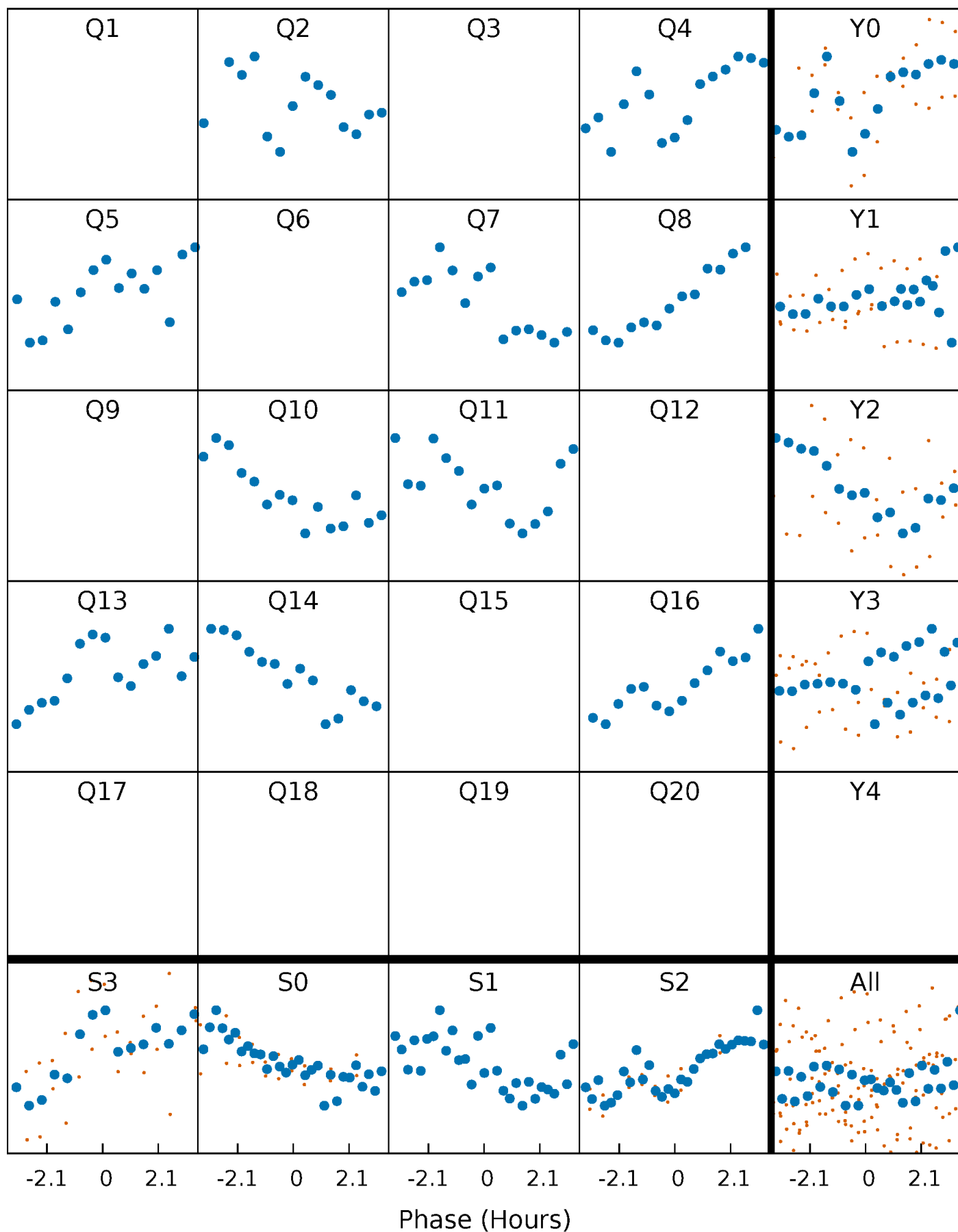


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



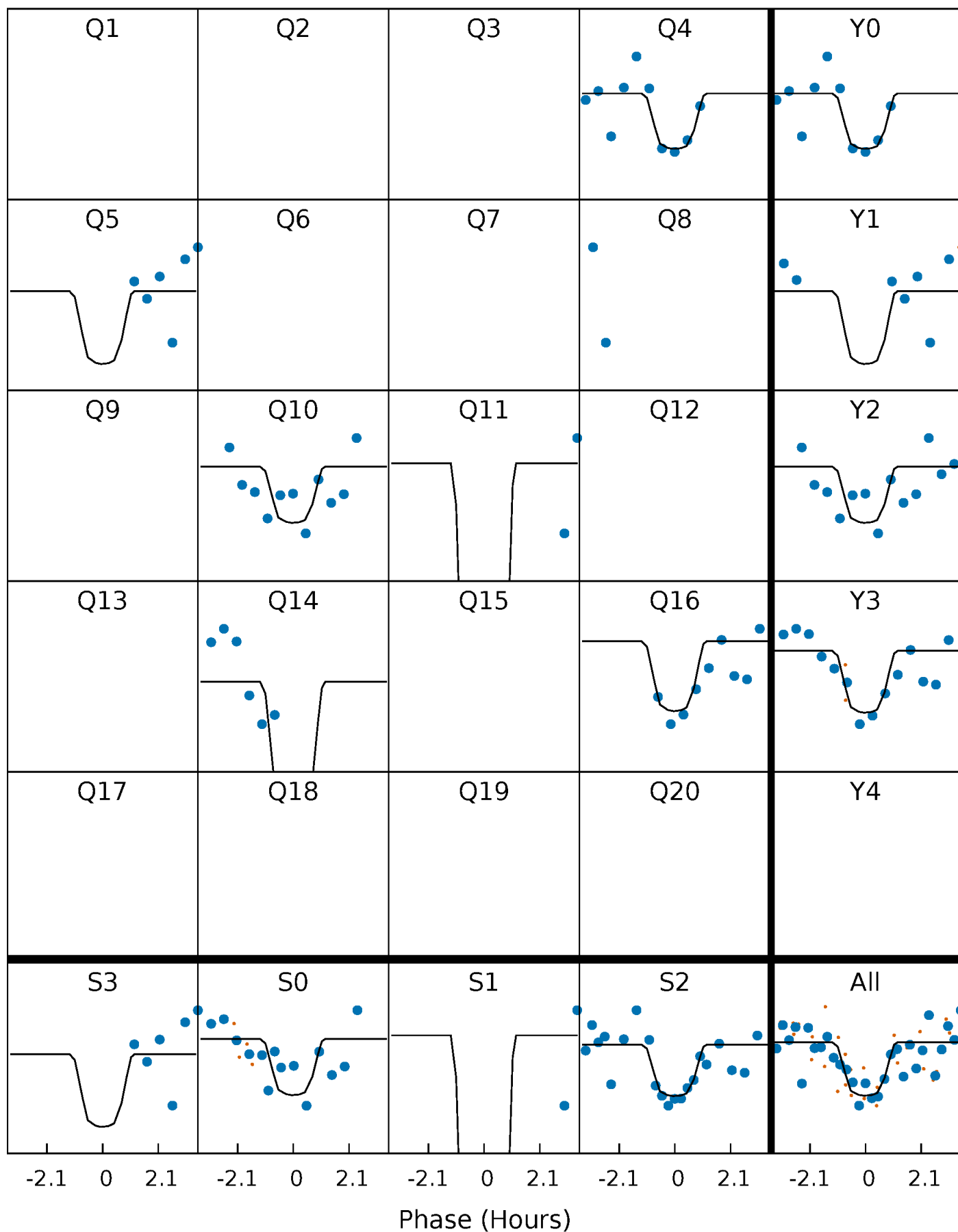
PDC Quarter-Phased Transit Curves

TCE 011811140-04 P=142.663359 Days $T_0=218.297691$ (BKJD)



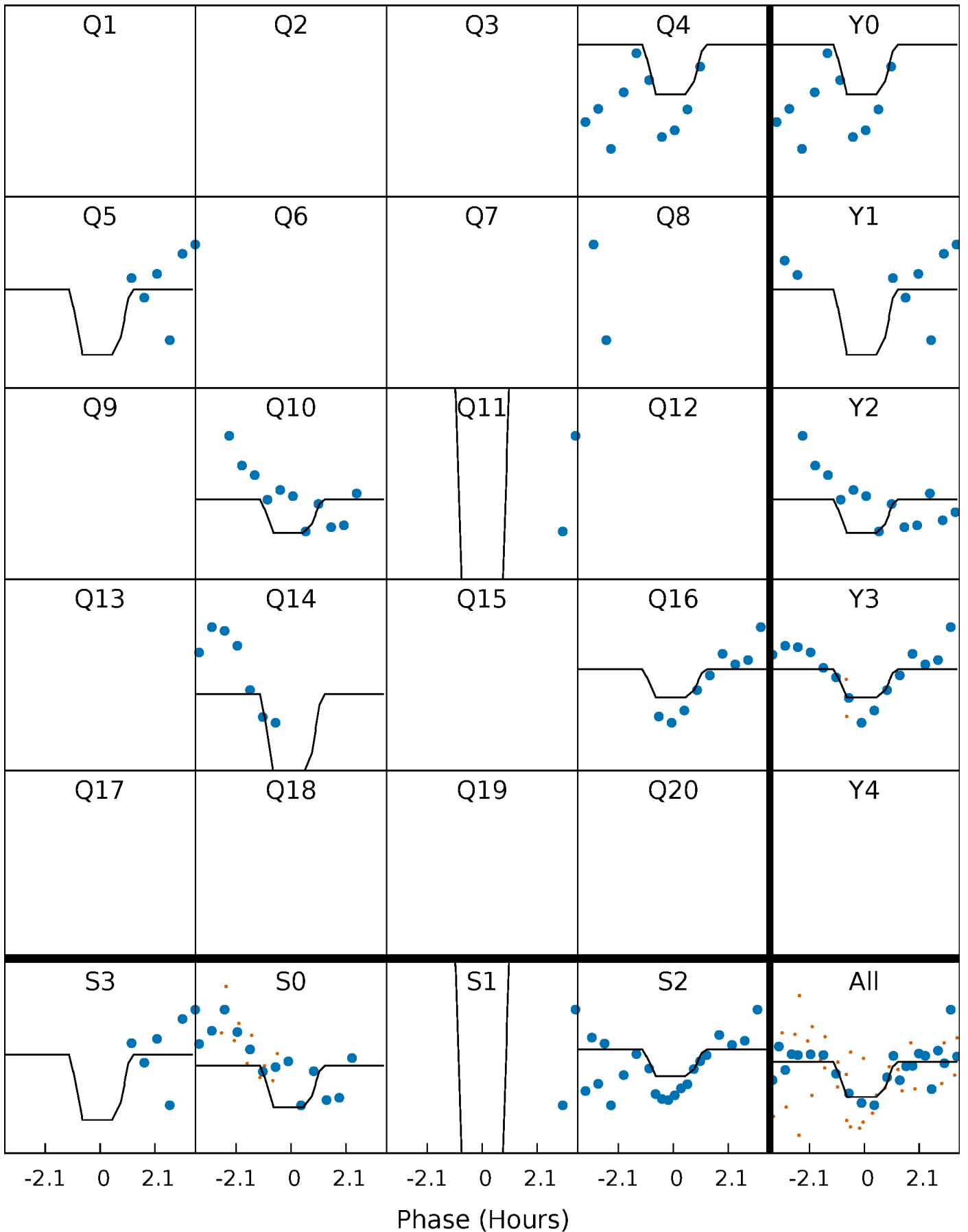
DV Quarter-Phased Transit Curves

TCE 011811140-04 P=142.663359 Days $T_0=218.297691$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

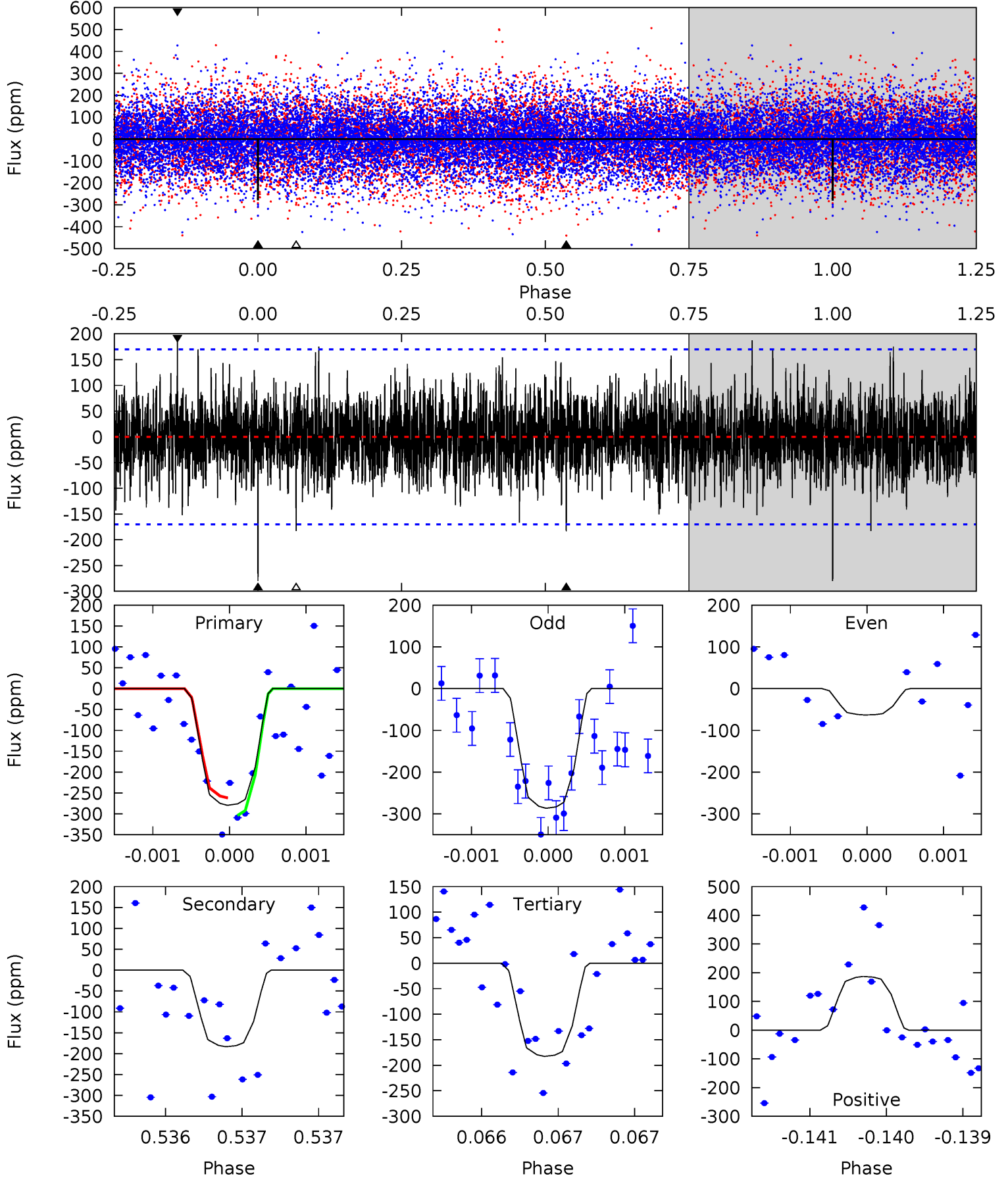
TCE 011811140-04 P=142.662953 Days $T_0=218.298120$ (BKJD)



DV Model-Shift Uniqueness Test

011811140-04, $P = 142.663359$ Days, $E = 75.634332$ Days

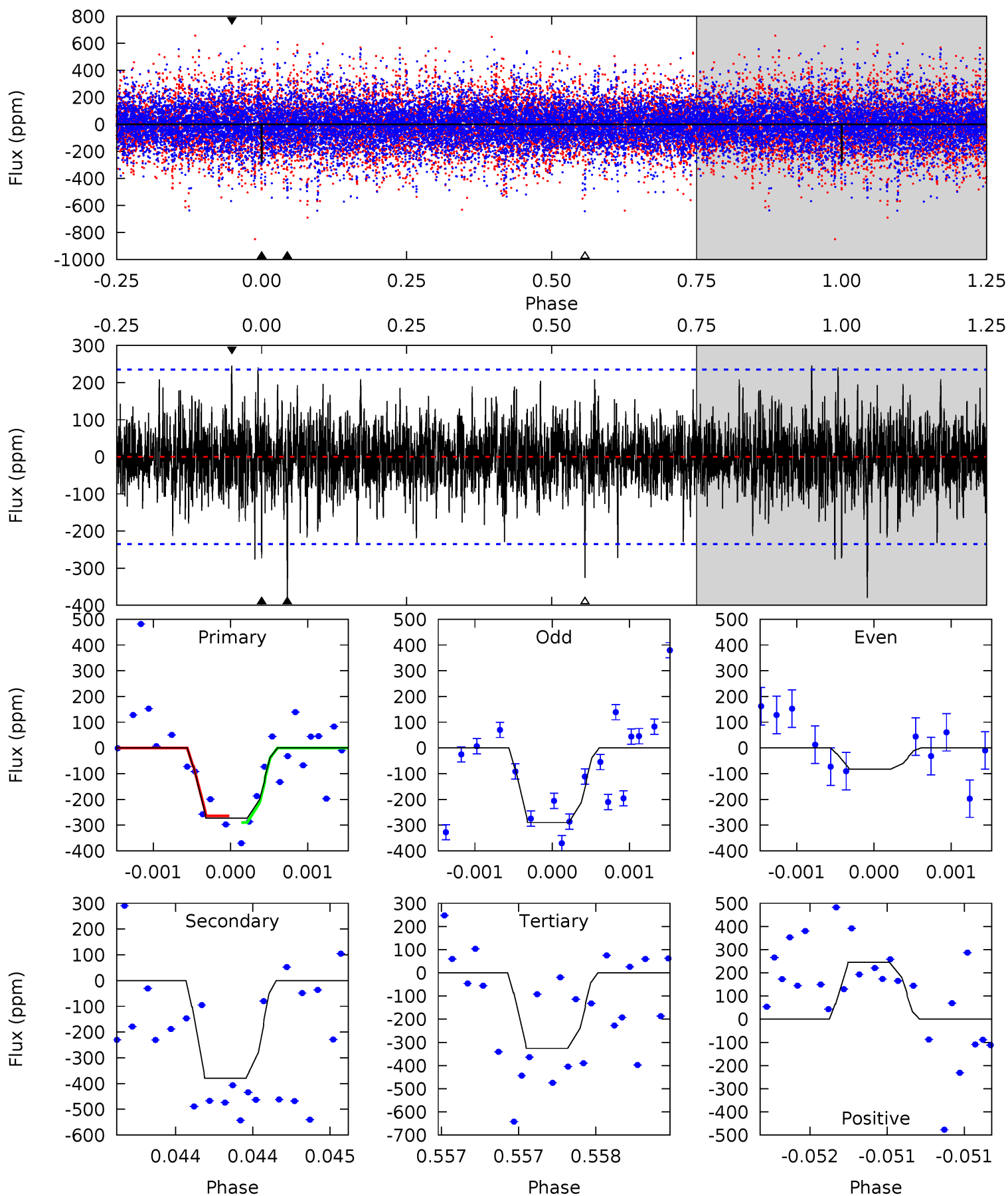
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.10	5.96	5.94	6.09	5.54	3.42	1.55	3.16	3.01	0.02	-0.13	1.87	0.98	0.40	0.68



Alt Model-Shift Uniqueness Test

011811140-04, P = 142.662953 Days, E = 75.635167 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.43	8.95	7.68	5.78	5.54	3.42	1.51	-1.25	0.65	1.27	3.16	1.32	0.71	0.39	0.31



Stellar Parameters For KIC 011811140

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7076^{+168}_{-252}	$3.594^{+0.324}_{-0.054}$	$-0.020^{+0.250}_{-0.250}$	$3.661^{+0.327}_{-1.310}$	$1.919^{+0.155}_{-0.336}$	$0.055^{+0.126}_{-0.010}$
	+2%/-4%	+9%/-2%	+1250%/-1250%	+9%/-36%	+8%/-18%	+228%/-18%
Source	PHO1	FLK73	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 011811140-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-183 ± 31	$10.13^{+9.44}_{-6.72}$	998^{+50}_{-91}	4997^{+3765}_{-1134}	437^{+3386}_{-324}
Alt.	-380 ± 42	$10.51^{+9.61}_{-7.03}$	997^{+55}_{-87}	5762^{+5841}_{-1365}	836^{+6975}_{-608}

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 $A_{obs} \gg 1.0$

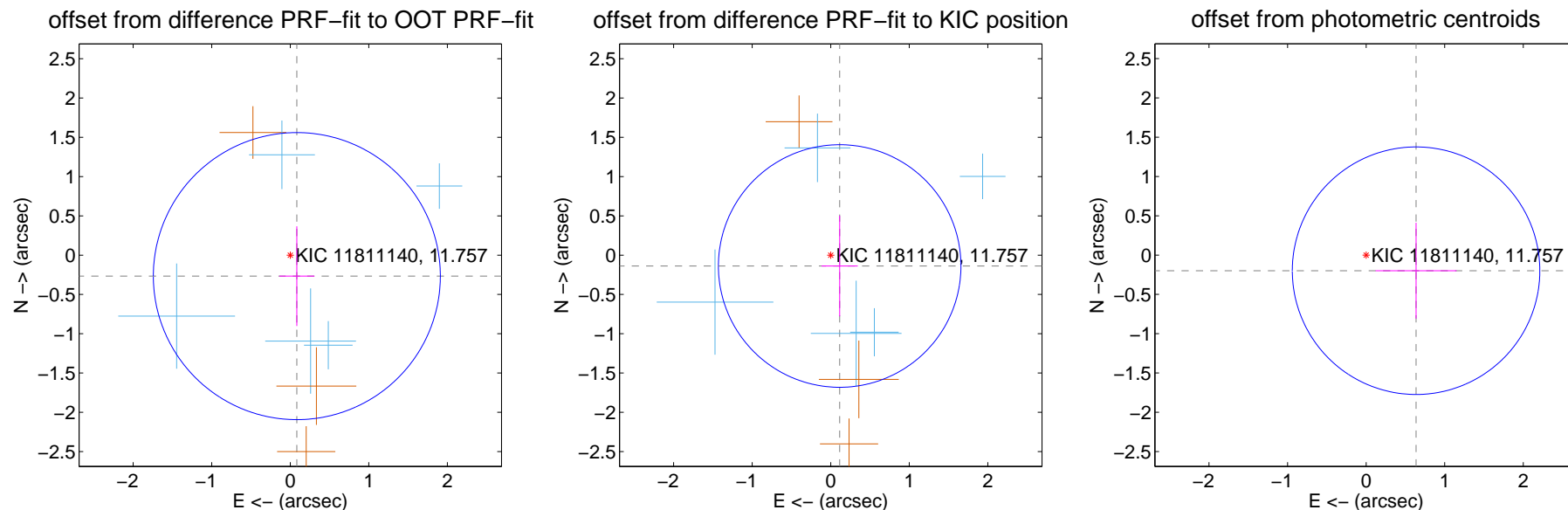
DV Centroid Data

Supplemental centroid analysis for 011811140-04. **Kepler magnitude: 11.76.** Transit SNR 7.64

There are 5 quarters with good PRF difference image offsets

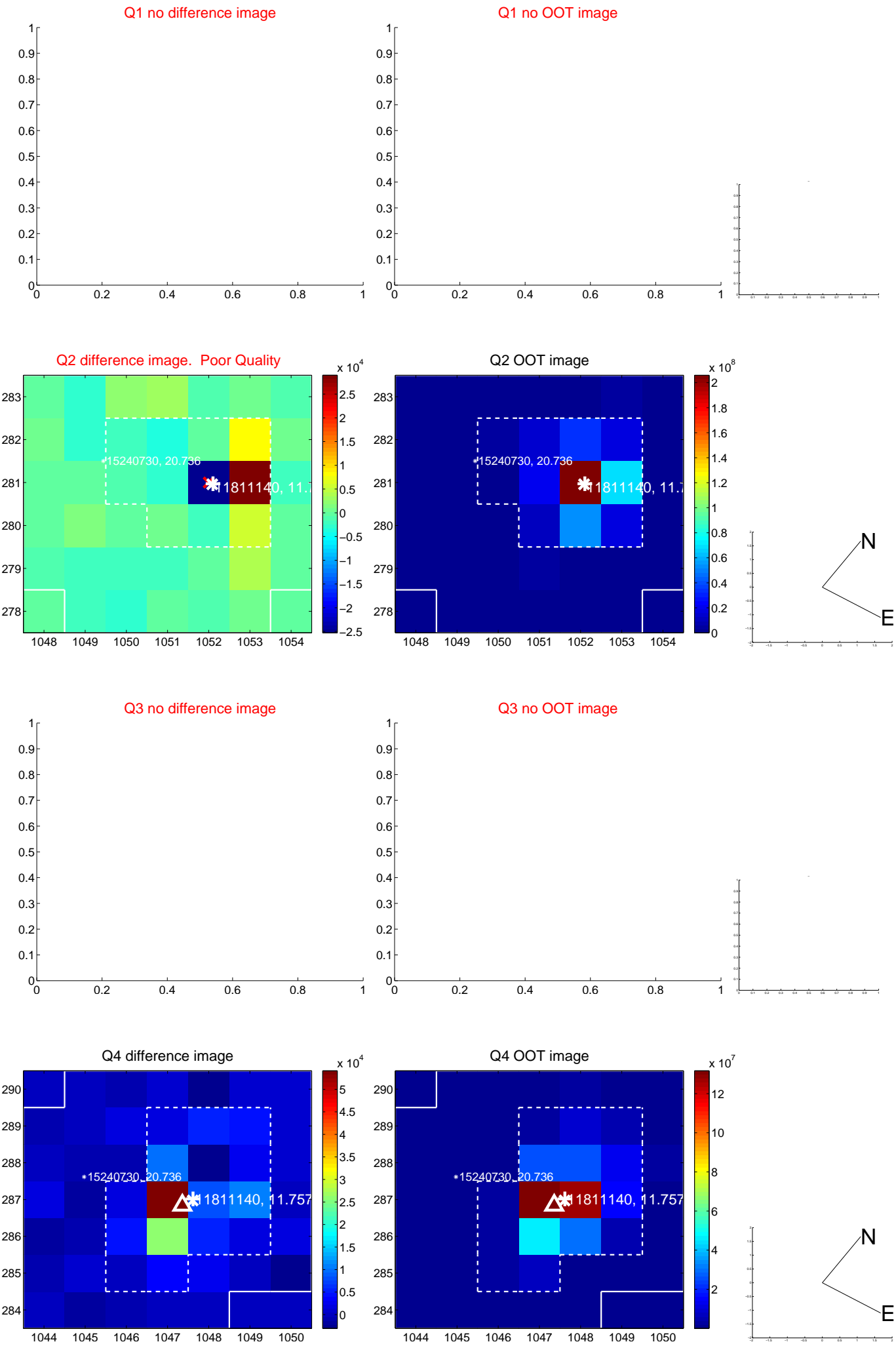
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.280 ± 0.609	0.46	-0.084 ± 0.223	-0.267 ± 0.634
PRF-fit source offset from KIC position	0.179 ± 0.515	0.35	-0.114 ± 0.231	-0.138 ± 0.640
photometric centroid source offset	0.67 ± 0.52	1.27	-0.64 ± 0.52	-0.20 ± 0.61

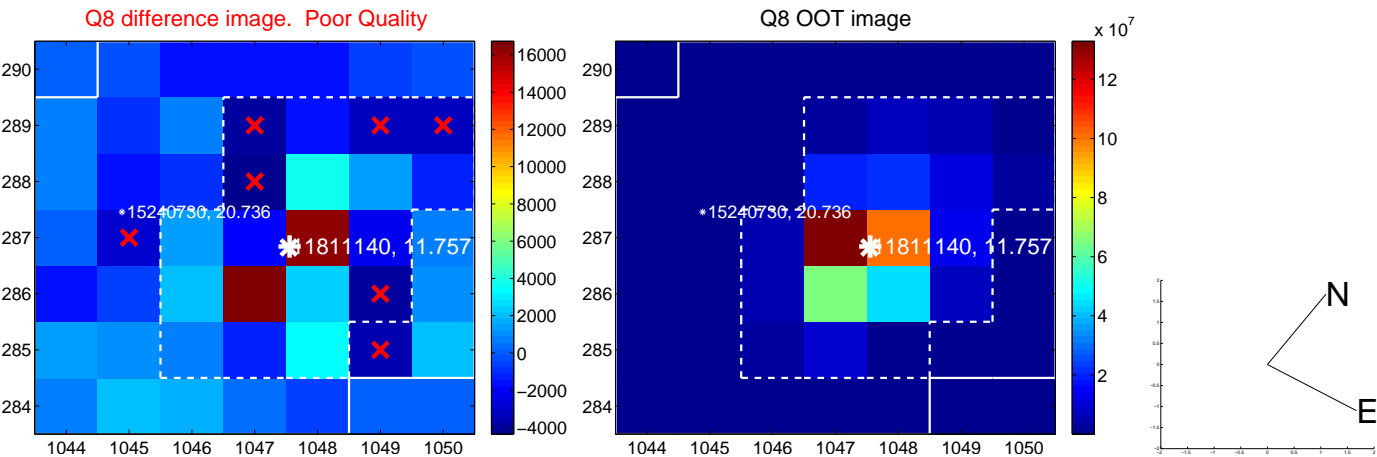
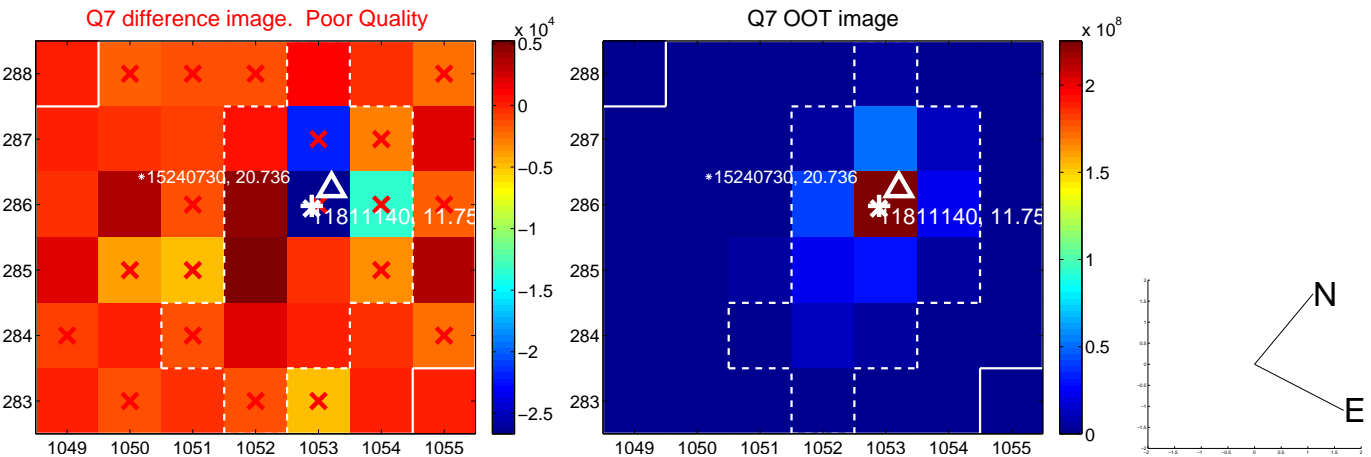
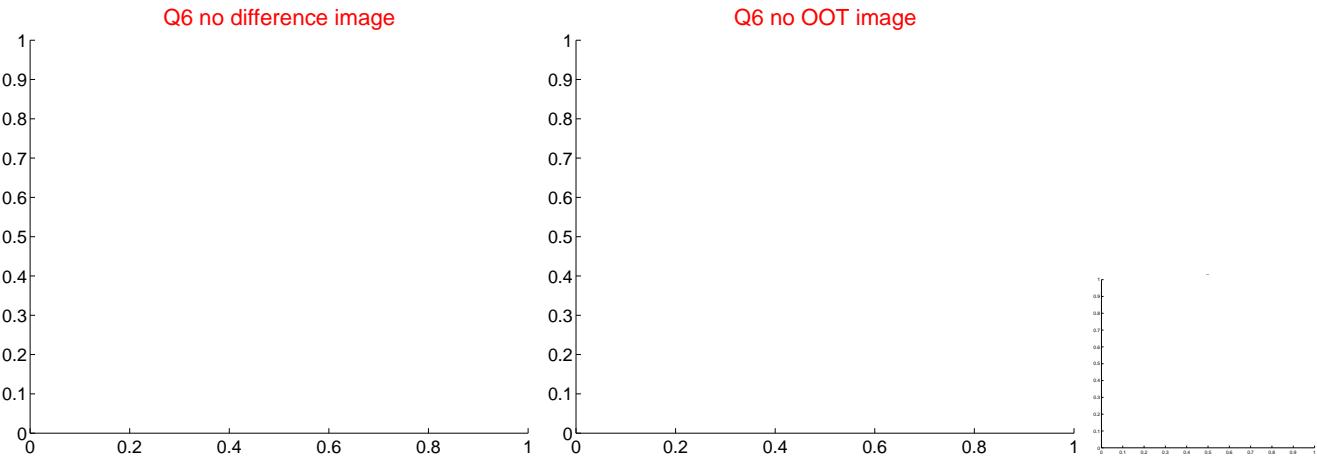
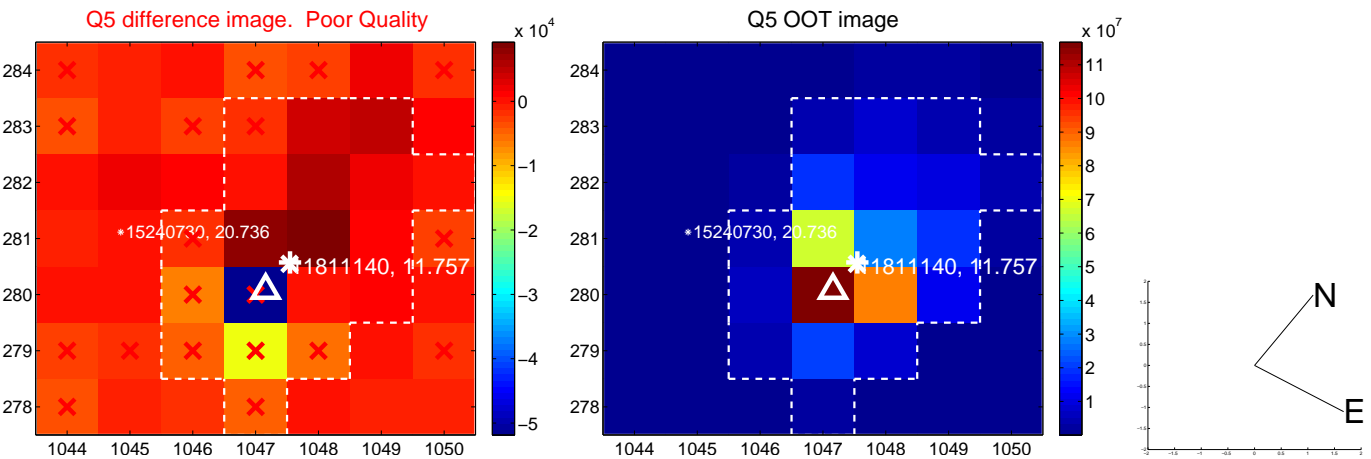


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

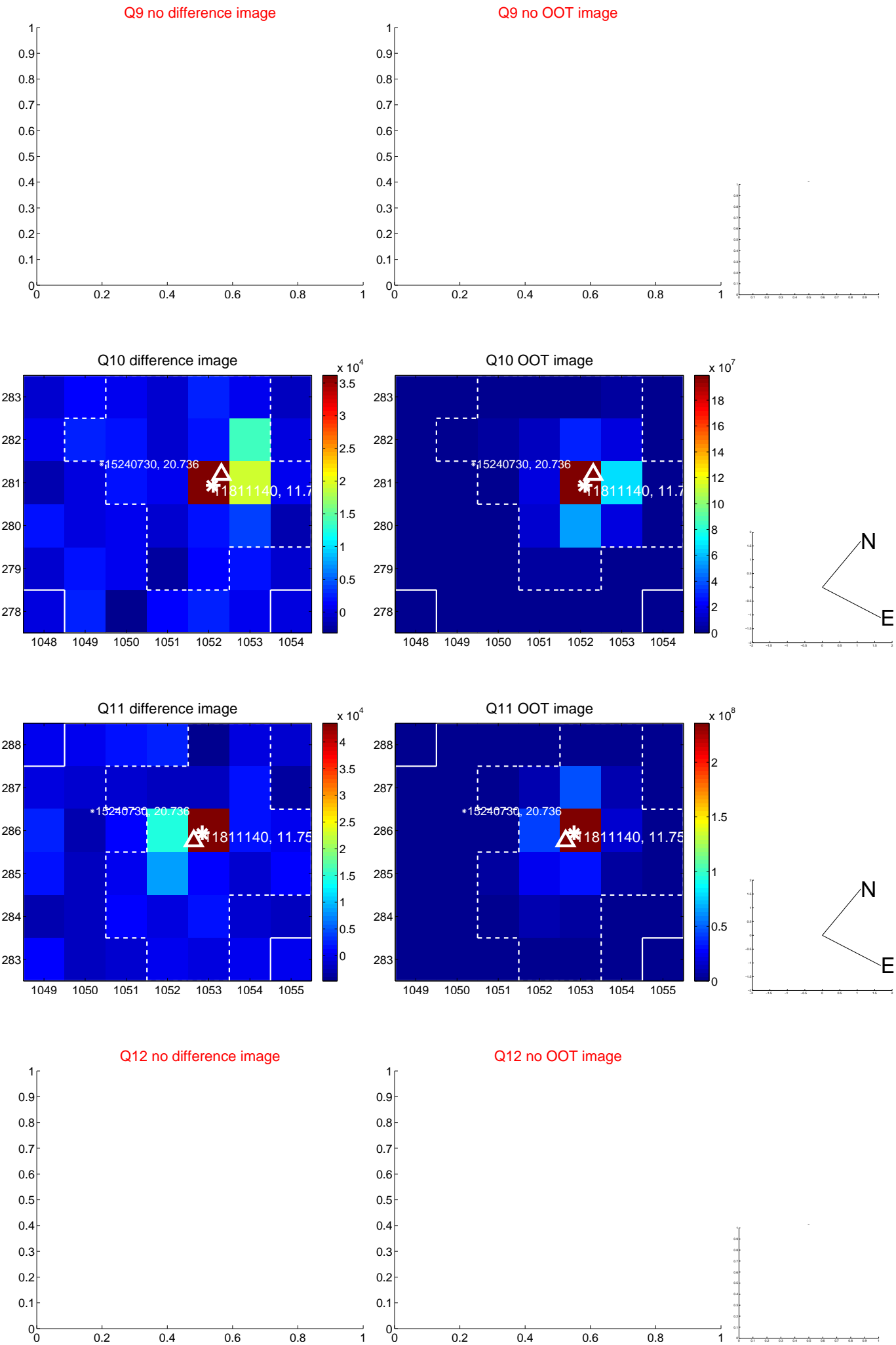
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



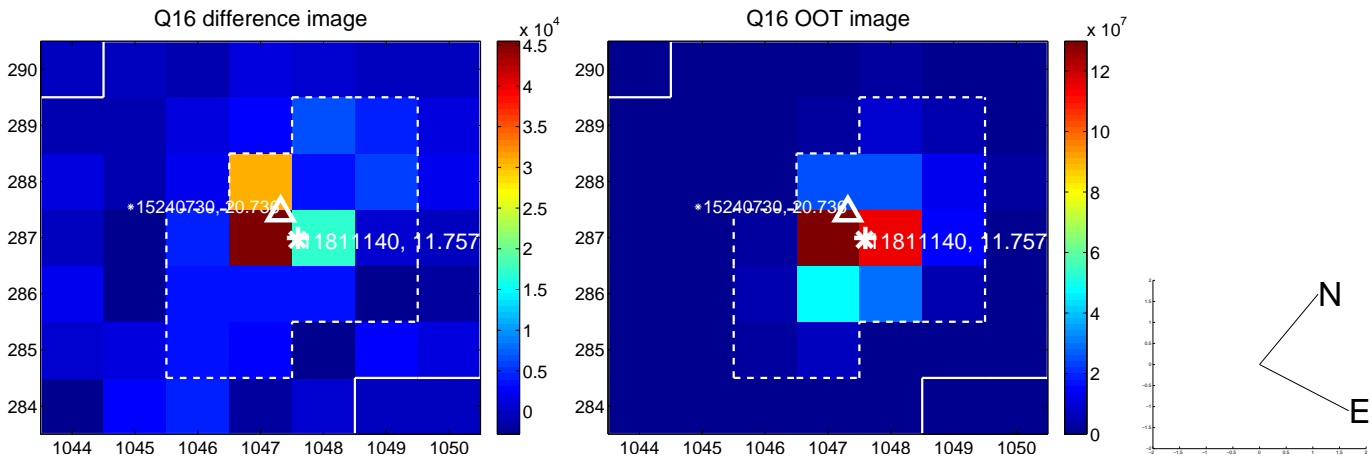
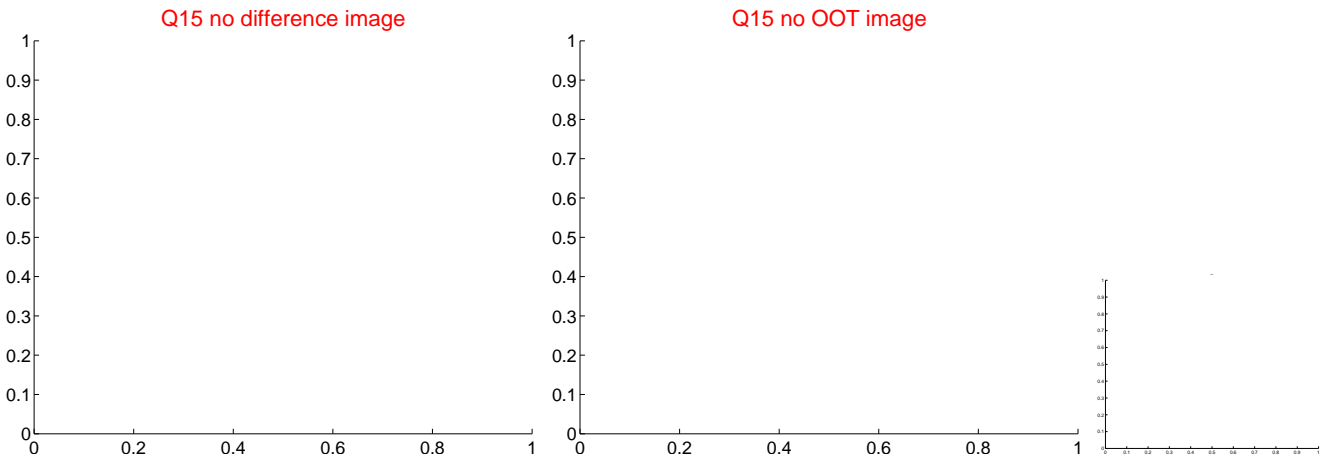
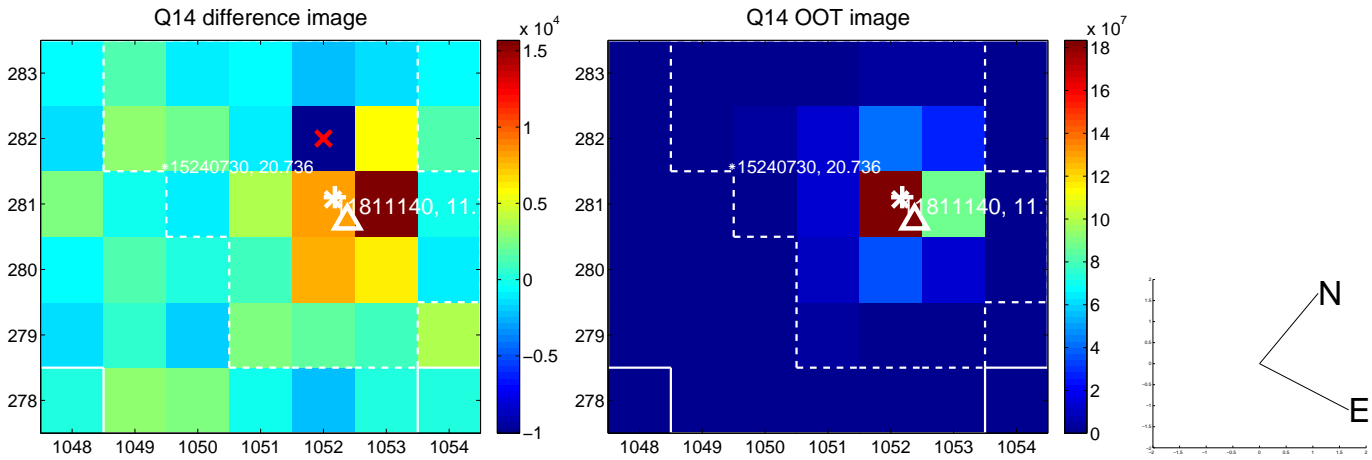
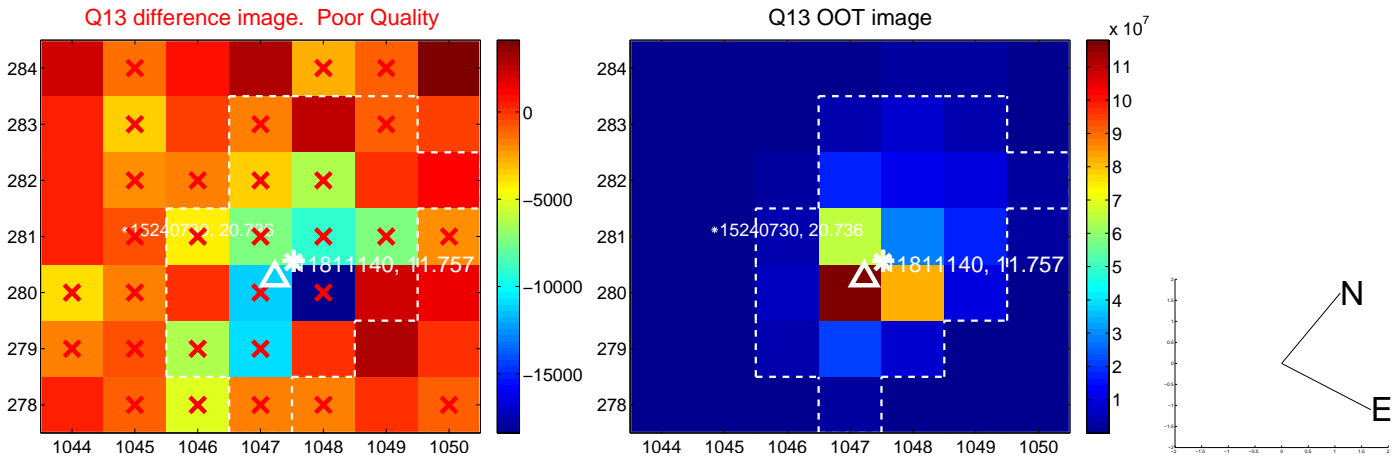
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



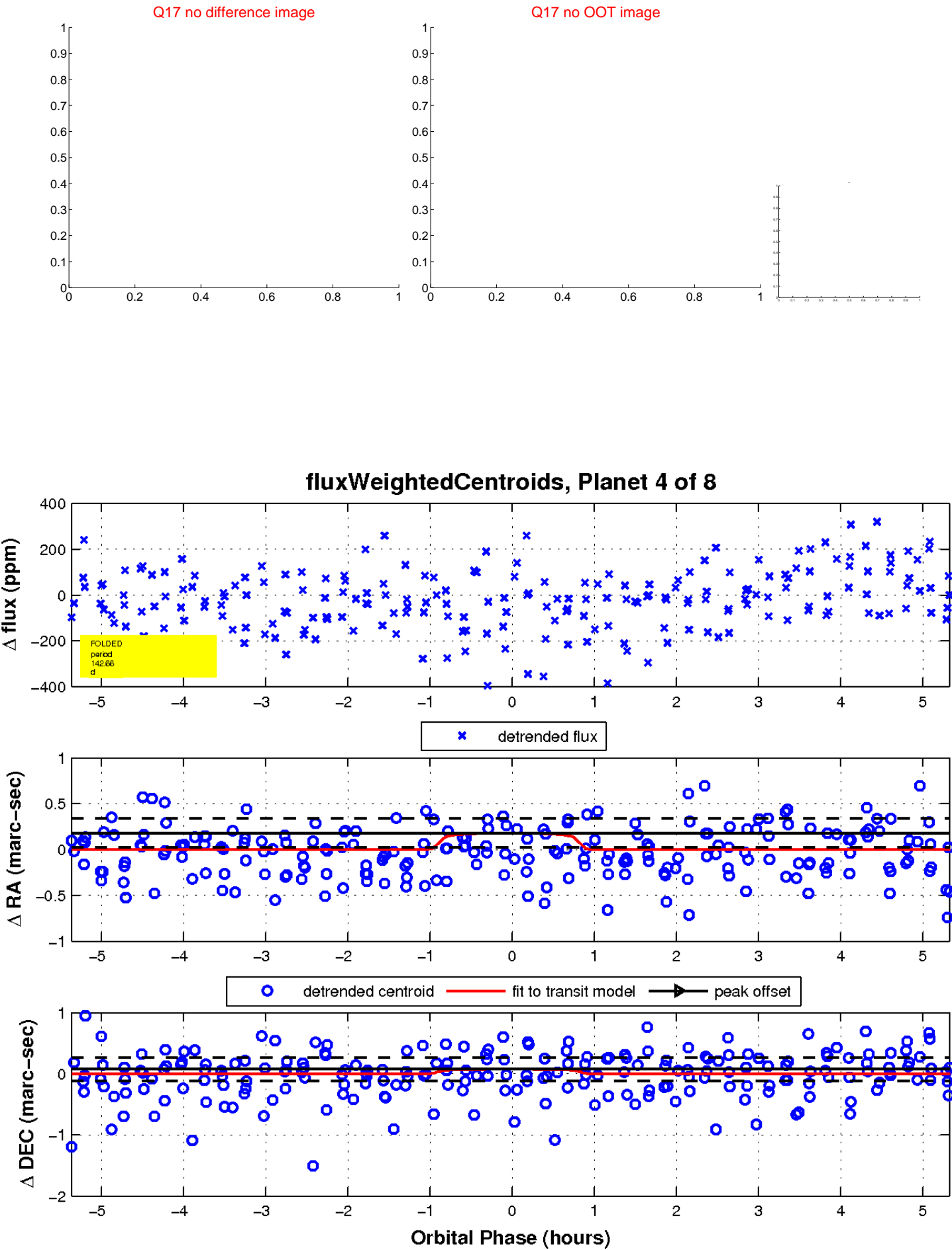
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

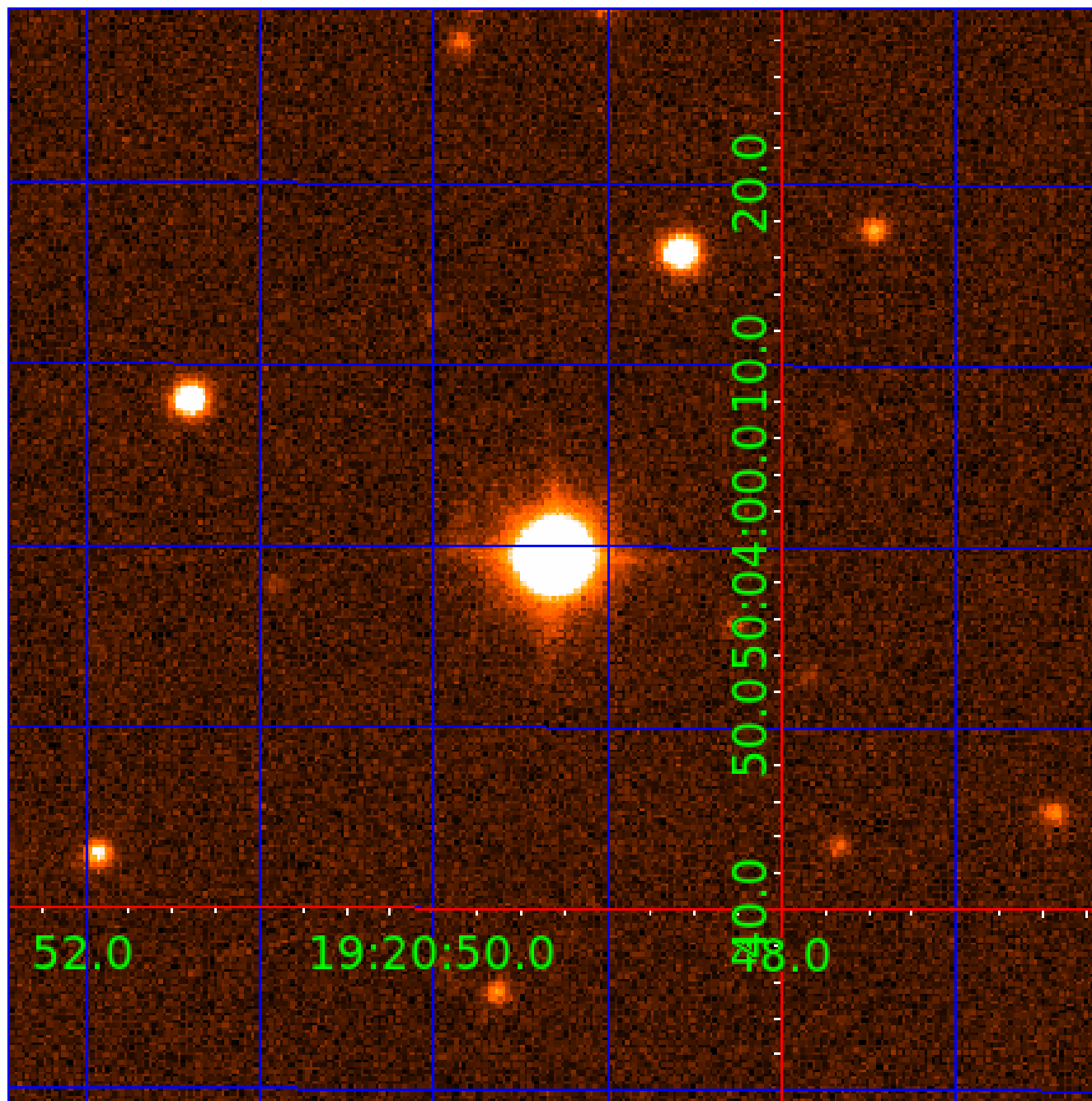


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011811140

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})
011811140-01	OBS	No	0.807258	132.027011	18.8	4.414	9.4	10.7	3.66	7076	1.68	67675.13
011811140-02	OBS	No	111.100730	216.201662	225.8	3.240	8.9	8.8	3.66	7076	6.00	95.24
011811140-03	OBS	No	110.664599	224.510088	203.6	2.456	8.8	8.4	3.66	7076	5.93	95.74
011811140-04	OBS	No	142.663359	218.297691	294.8	1.797	8.7	7.6	3.66	7076	6.82	68.24
011811140-05	OBS	No	83.860304	199.528002	210.3	3.341	8.4	8.4	3.66	7076	5.99	138.58
011811140-06	OBS	No	160.333575	211.811004	217.9	11.065	7.8	9.1	3.66	7076	6.43	58.40
011811140-07	OBS	No	139.061696	200.981521	275.9	1.868	7.9	8.2	3.66	7076	7.07	70.61
011811140-08	OBS	No	104.873512	149.632424	185.2	8.082	7.8	8.2	3.66	7076	6.38	102.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011811140-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
011811140-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
011811140-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011811140-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011811140-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

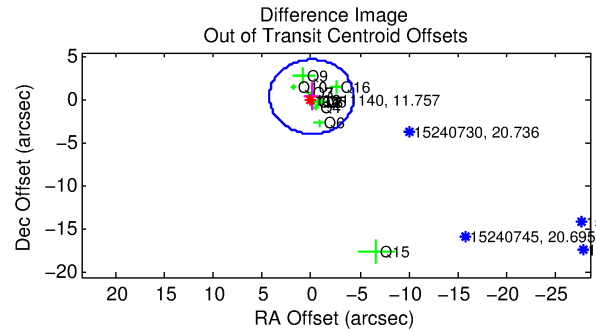
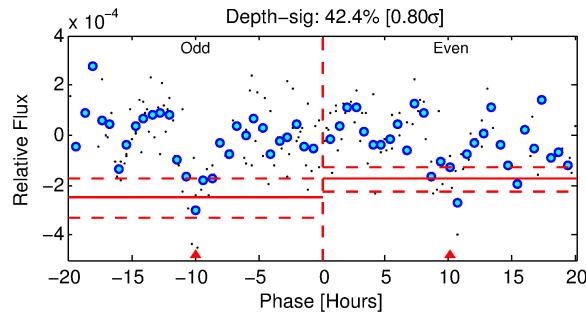
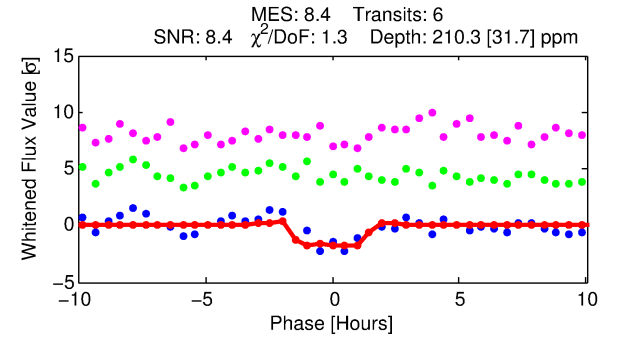
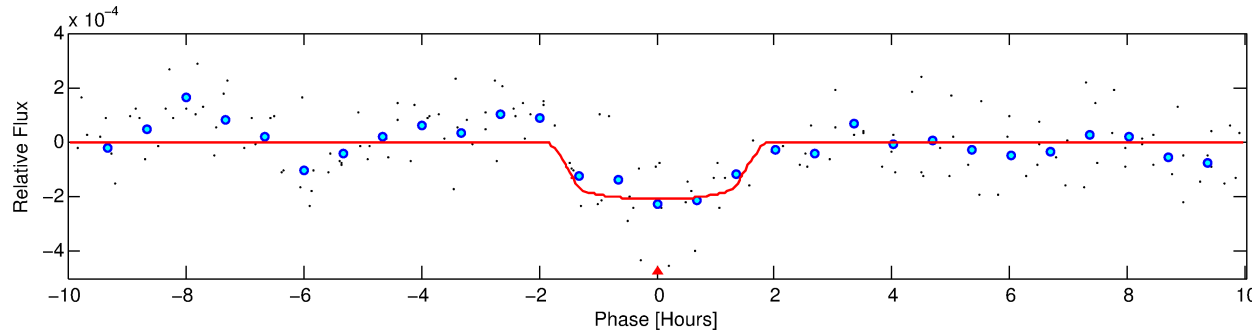
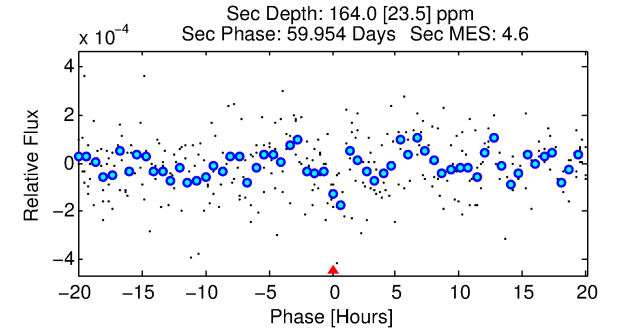
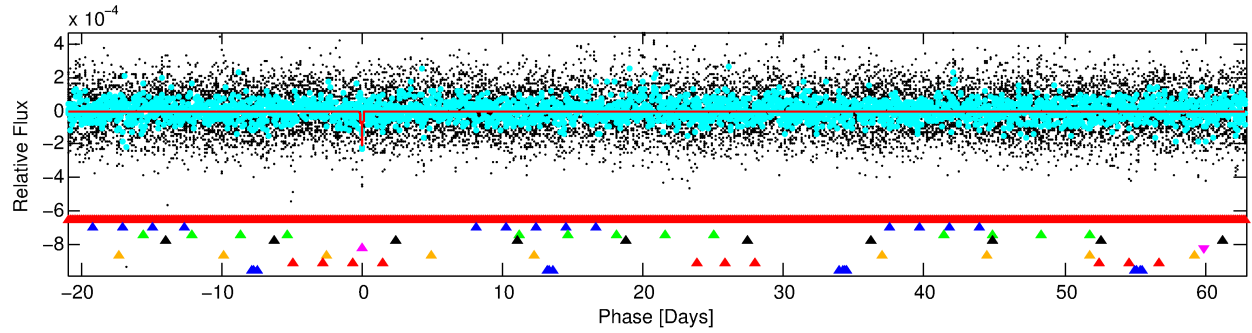
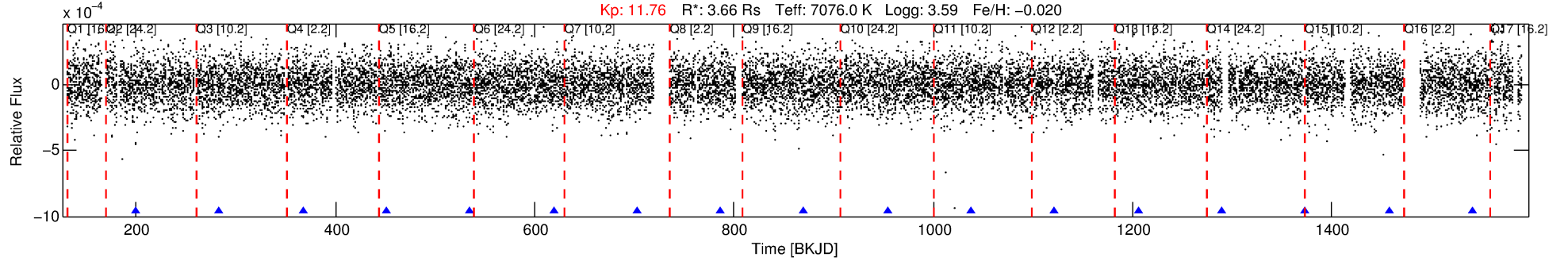
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011811140-05

No Significant Match Found

DV One-Page Summary

KIC: 11811140 Candidate: 5 of 8 Period: 83.860 d



DV Fit Results:

Period = 83.86030 [0.00110] d
Epoch = 199.5280 [0.0087] BKJD
Rp/R* = 0.0150 [0.0123]
a/R* = 105.27 [527.08]
b = 0.85 [1.60]
Seff = 138.58 [78.95]
Teff = 875 [125] K
Rp = 5.99 [5.36] Re
a = 0.4661 [0.1606] AU
Ag = 545.81 [947.26] [0.58σ]
Teffp = 6538 [2700] K [2.10σ]

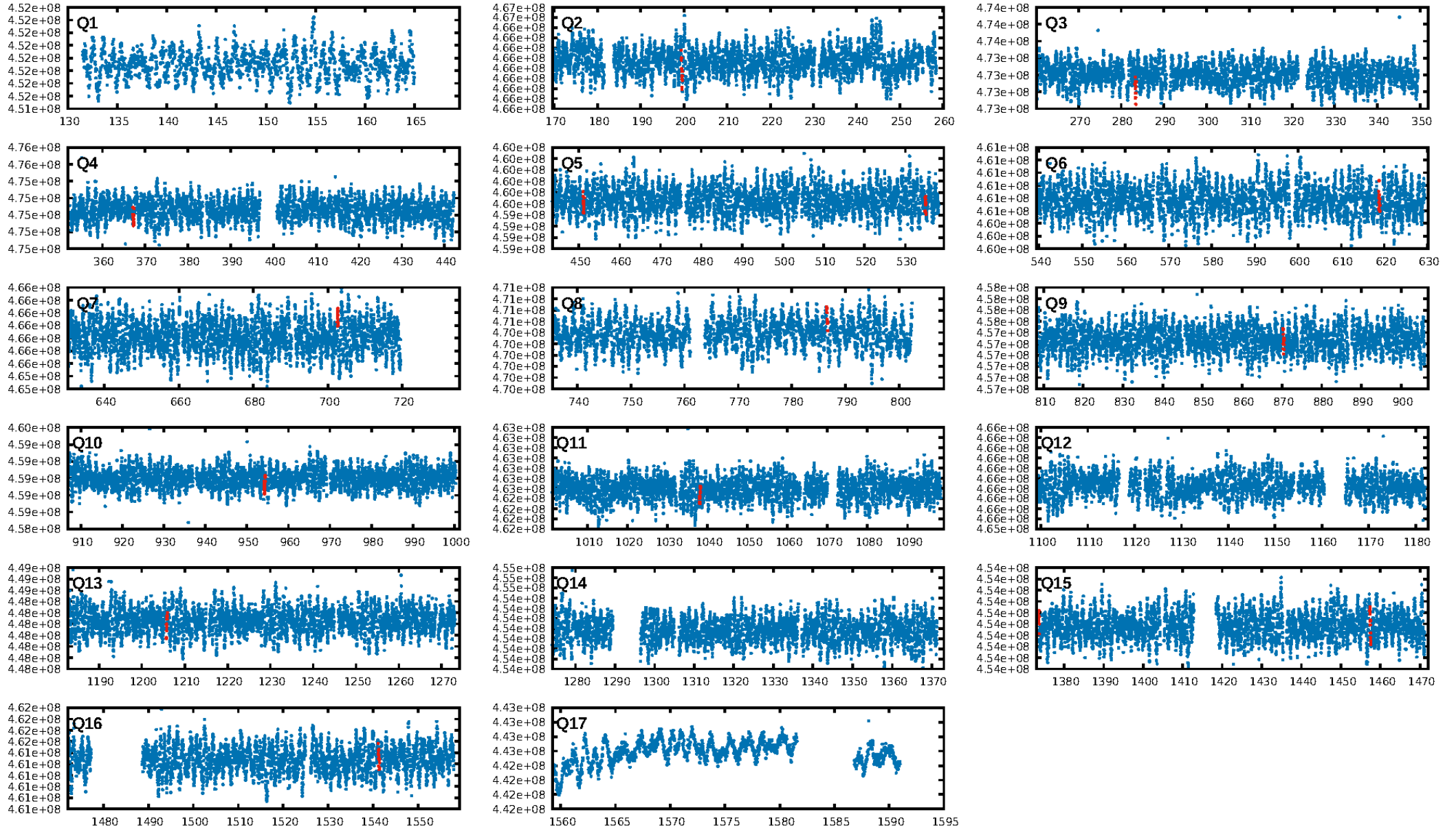
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [360.06σ]
LongPeriod-sig: 100.0% [57.67σ]
ModelChiSquare2-sig: 15.7%
ModelChiSquareGof-sig: 97.0%
Bootstrap-pfa: 2.46e-09
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -0.6157
Centroid-sig: 69.2%
Centroid-so: 0.211 arcsec [0.47σ]
OotOffset-rm: 0.354 arcsec [0.25σ]
KicOffset-rm: 0.453 arcsec [0.32σ]
OotOffset-st: 3/3/3/2 [11]
KicOffset-st: 3/3/3/2 [11]
DiffImageQuality-fgm: 0.36 [4/11]
DiffImageOverlap-fno: 0.00 [0/11]

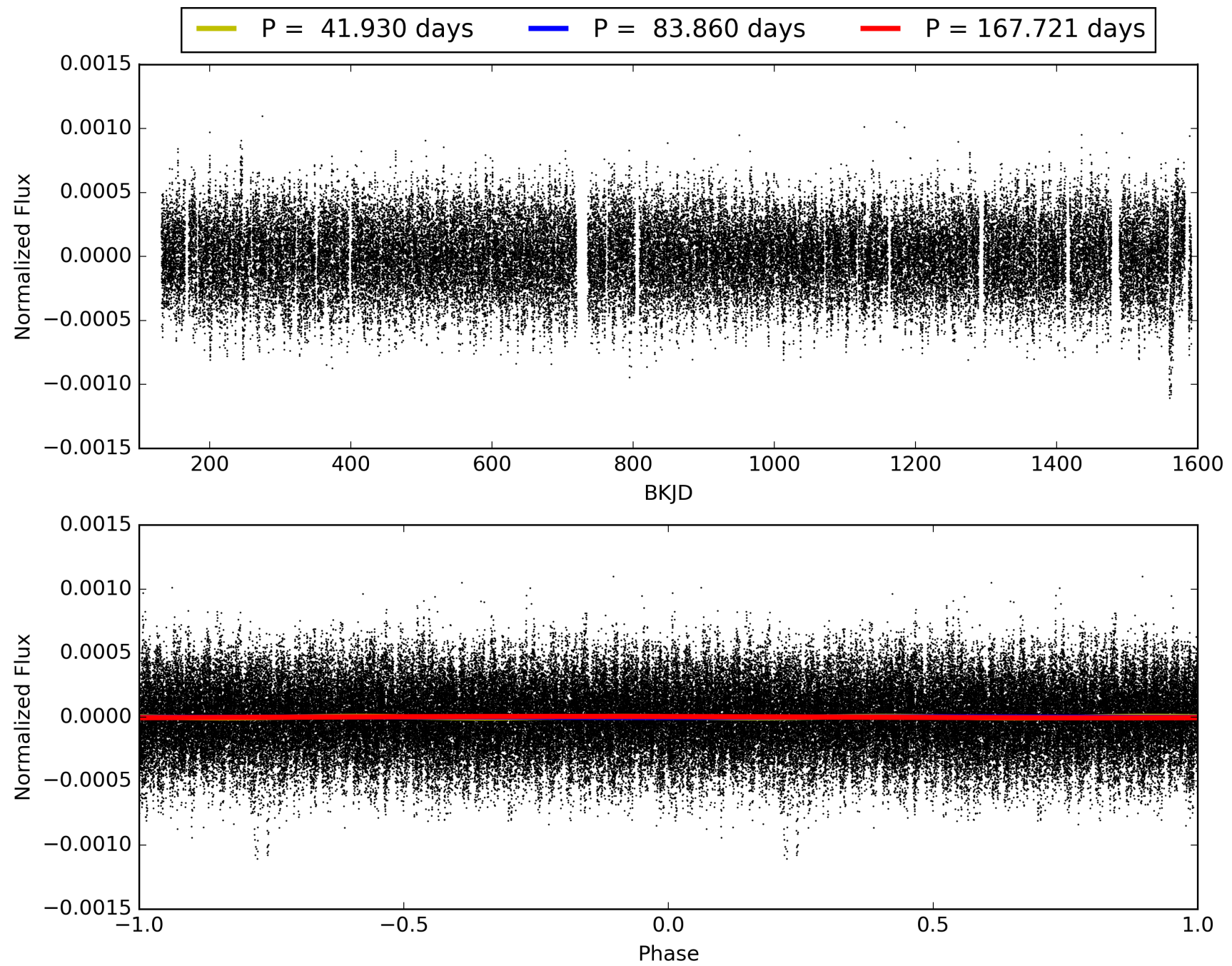
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:06:01 Z

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

TCE 011811140-05, PDC Light Curves

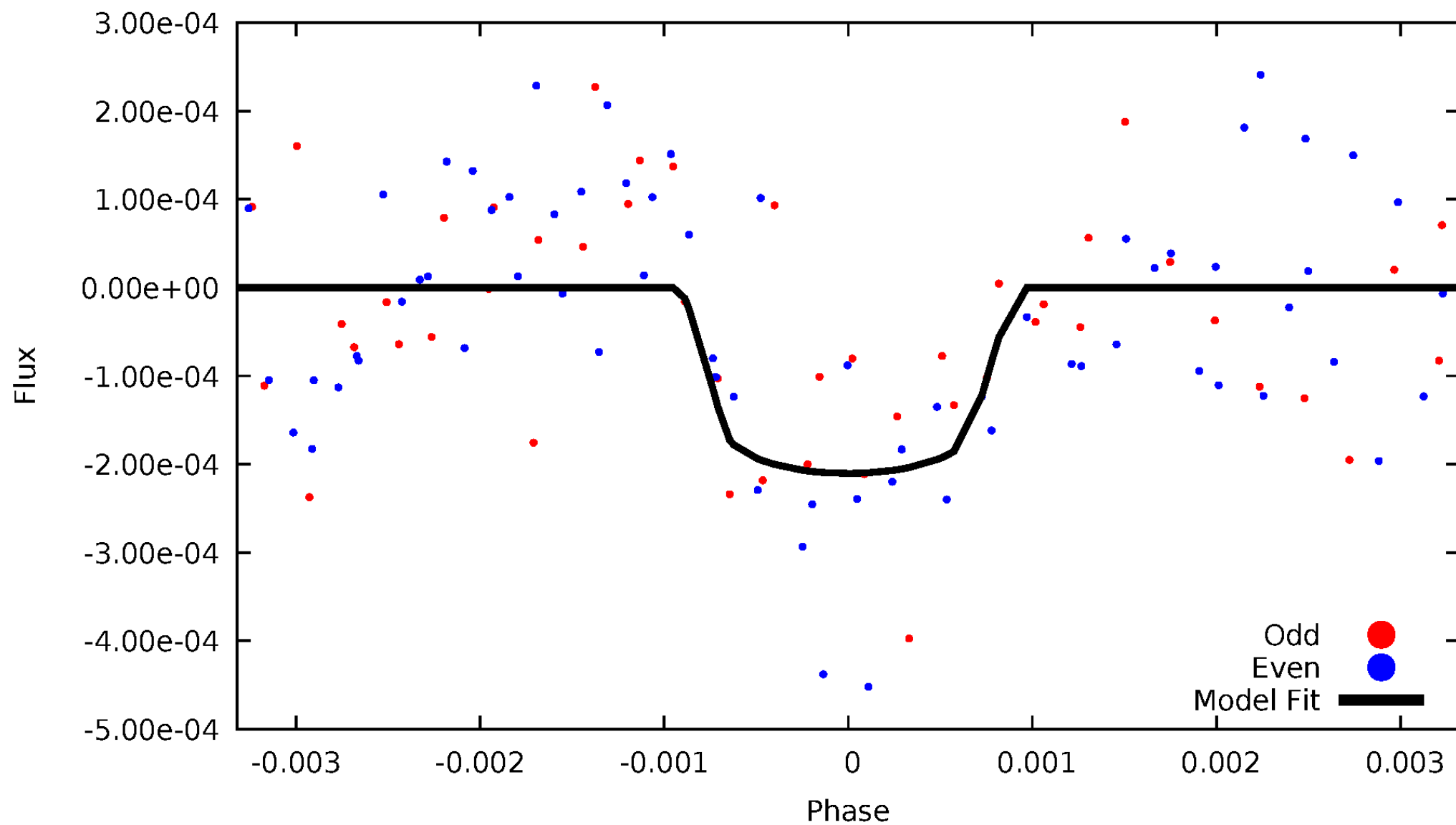


TCE 011811140-05



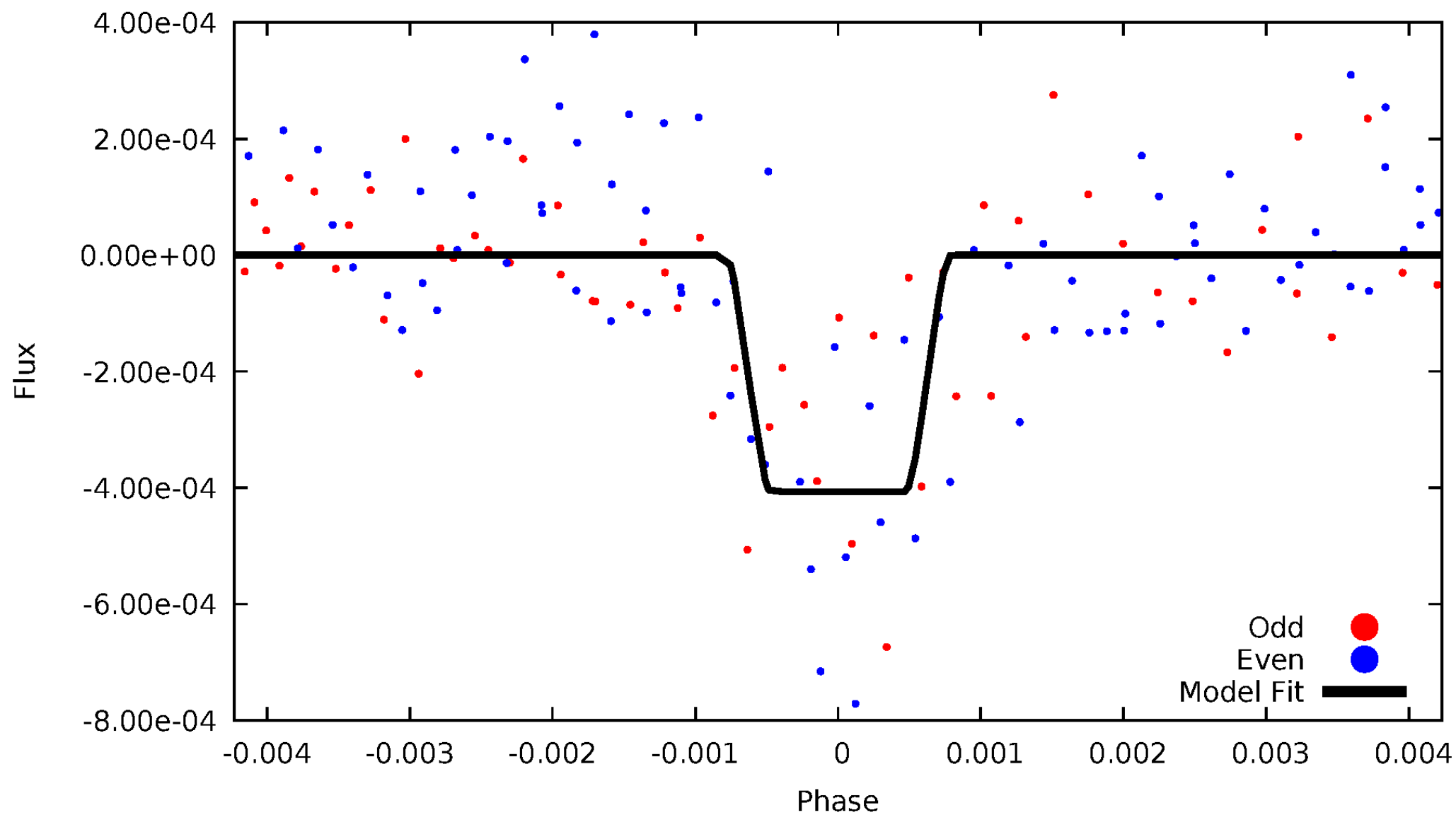
DV Odd/Even

TCE 011811140-05

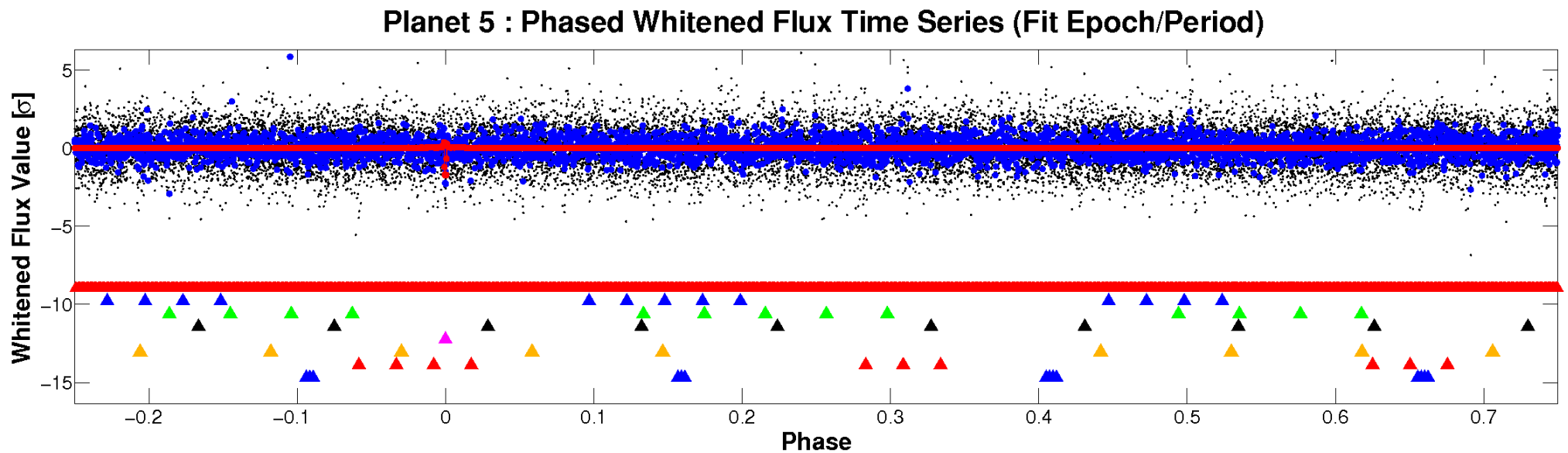
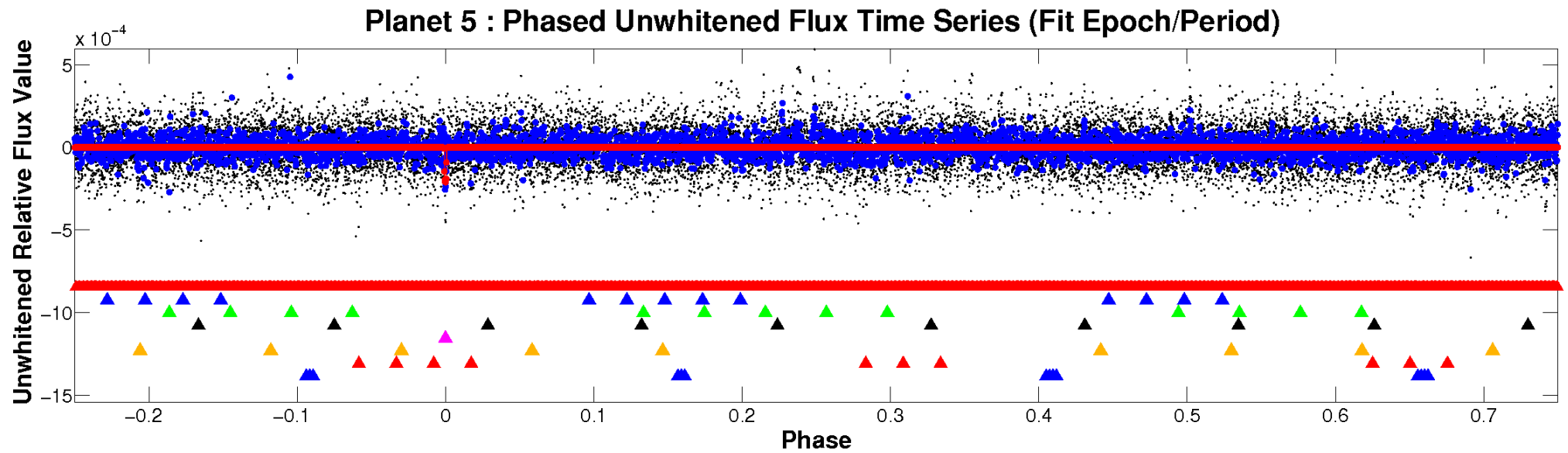


ALT Odd/Even

TCE 011811140-05

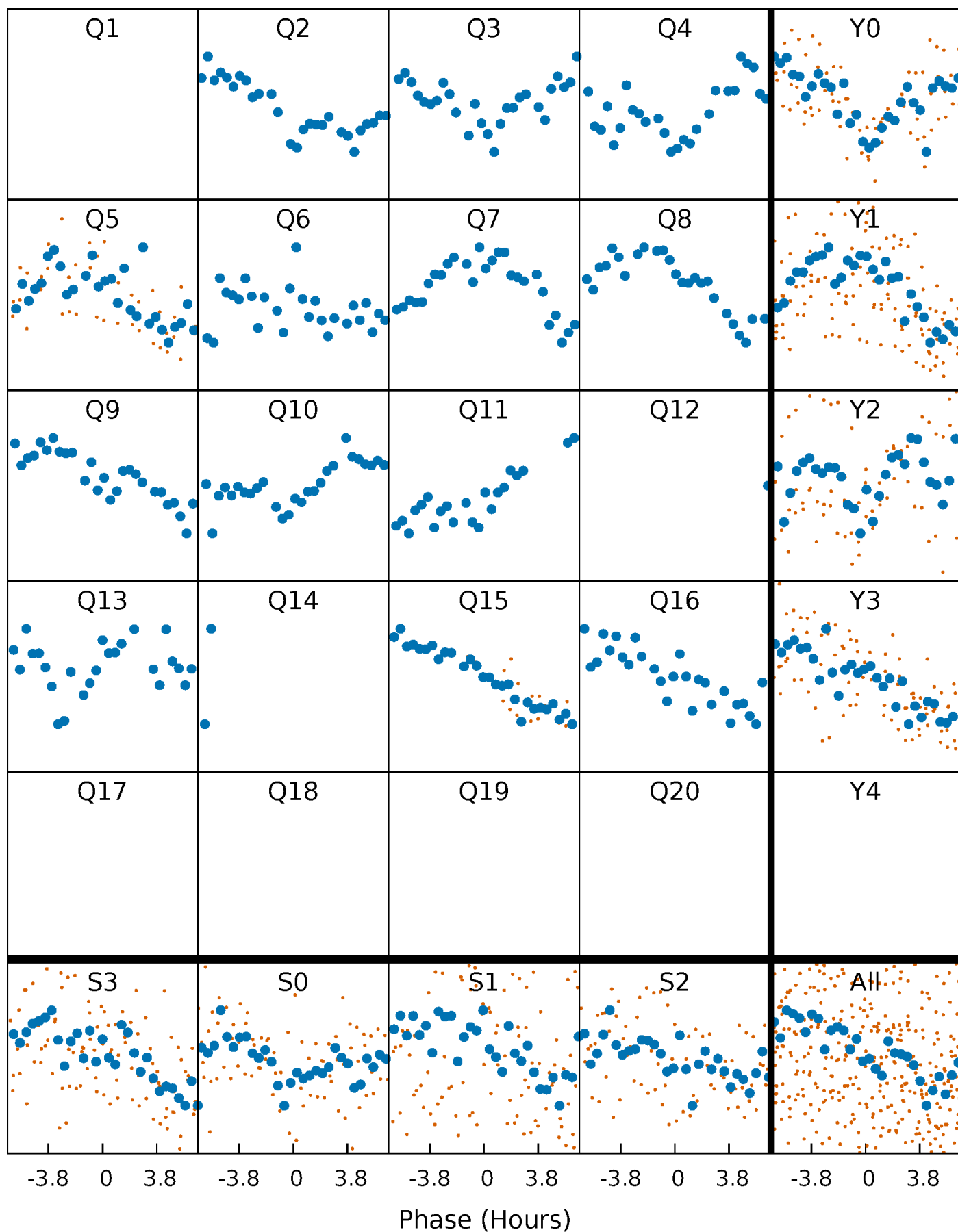


Non-Whitened Vs. Whitened Light Curve



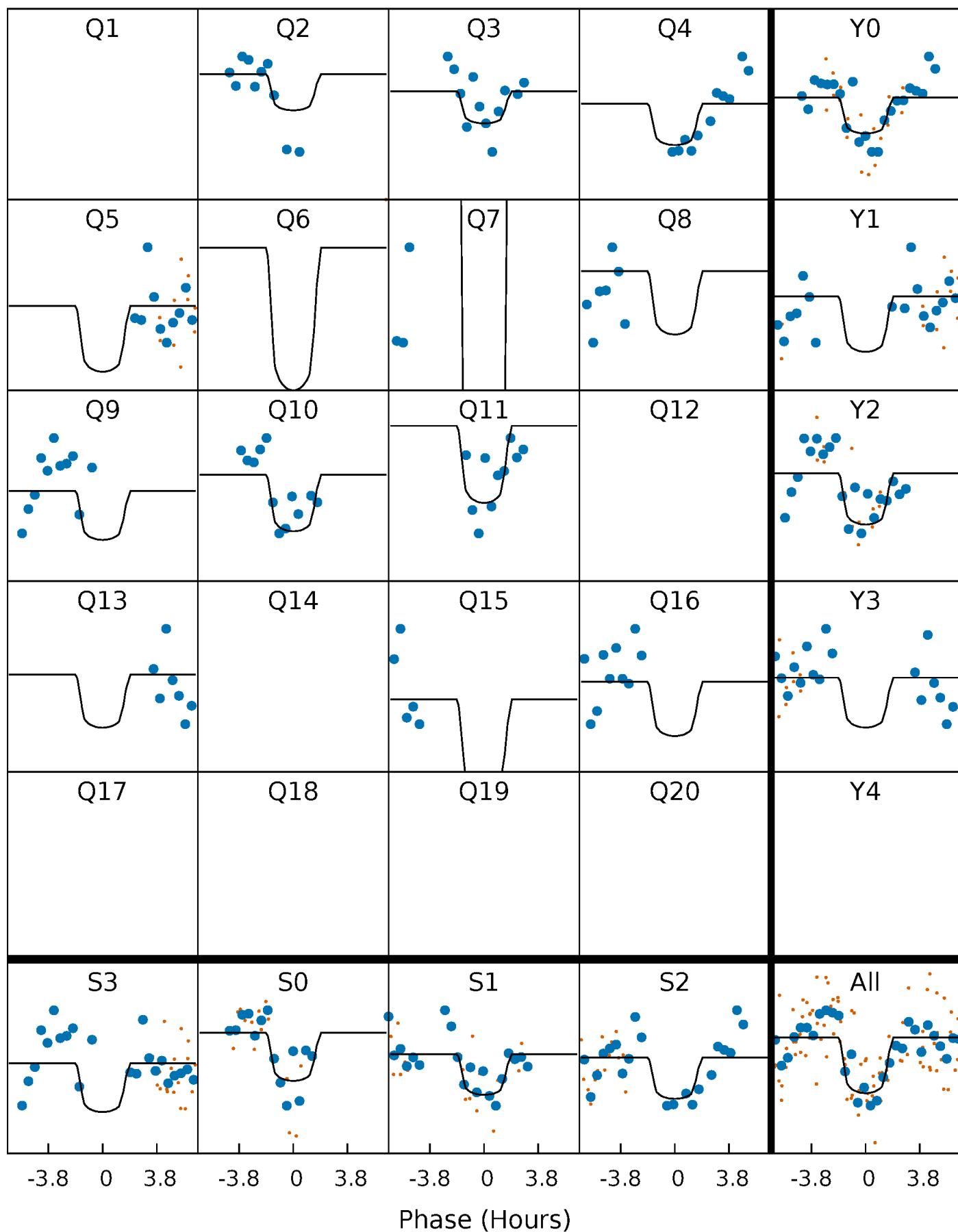
PDC Quarter-Phased Transit Curves

TCE 011811140-05 P= 83.860304 Days $T_0=199.528002$ (BKJD)



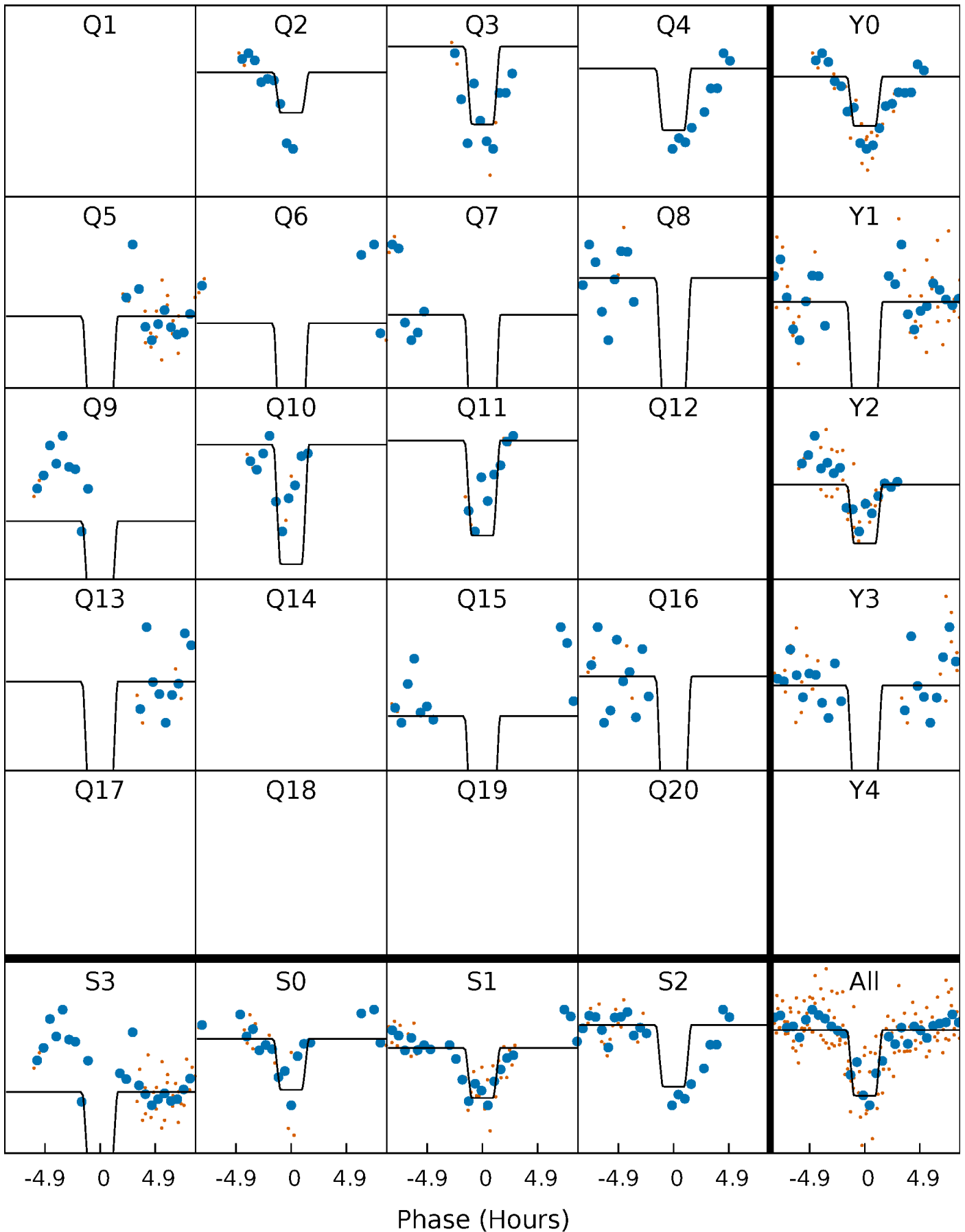
DV Quarter-Phased Transit Curves

TCE 011811140-05 P= 83.860304 Days $T_0=199.528002$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

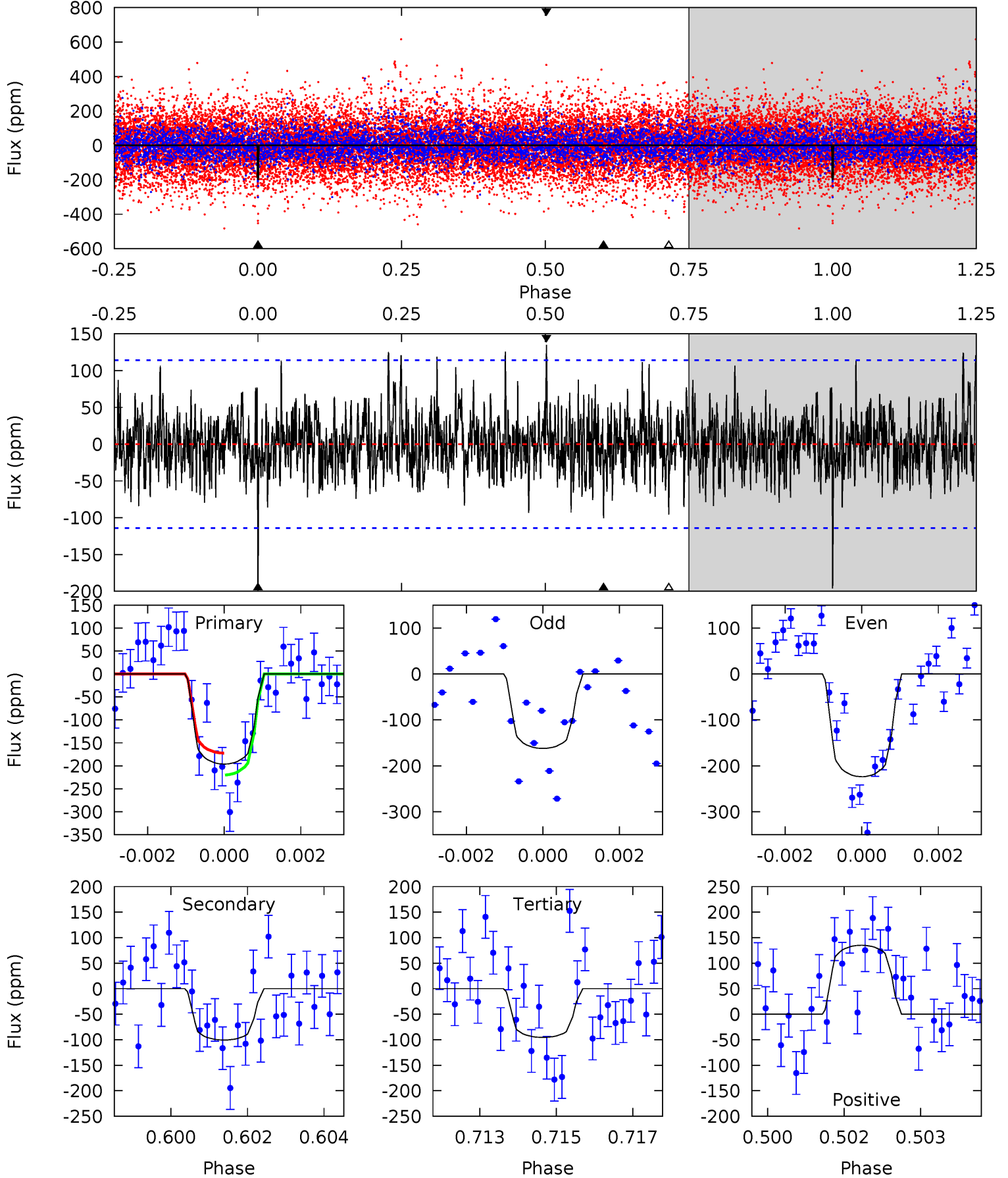
TCE 011811140-05 P= 83.860572 Days $T_0=199.526855$ (BKJD)



DV Model-Shift Uniqueness Test

011811140-05, P = 83.860304 Days, E = 115.667698 Days

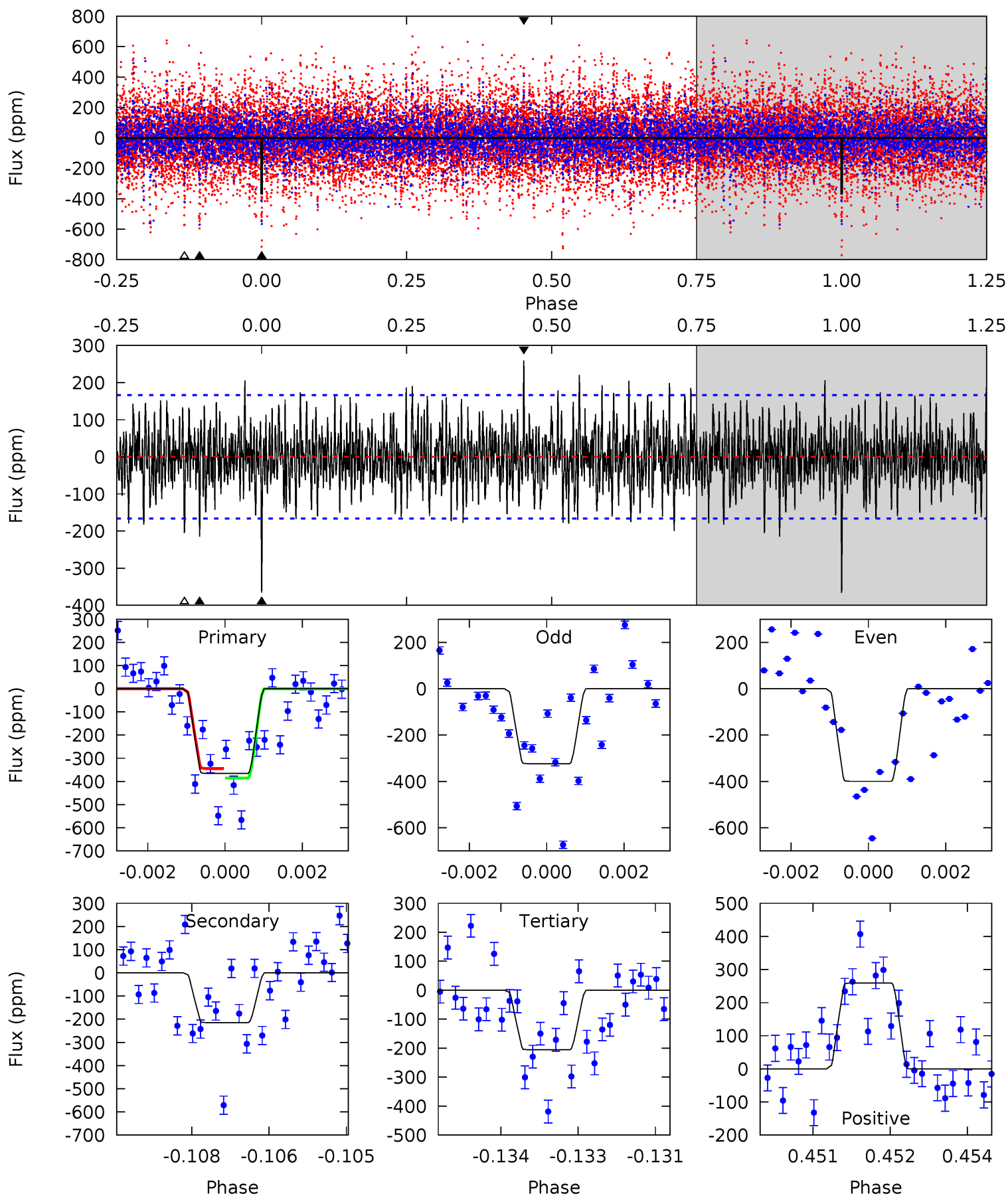
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.18	4.71	4.47	6.32	5.34	3.11	1.52	4.71	2.86	0.24	-1.61	1.44	0.99	0.41	1.12



Alt Model-Shift Uniqueness Test

011811140-05, $P = 83.860572$ Days, $E = 115.666283$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	6.93	6.63	8.37	5.37	3.16	2.13	5.19	3.45	0.30	-1.43	1.22	0.90	0.41	0.66



Stellar Parameters For KIC 011811140

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7076^{+168}_{-252}	$3.594^{+0.324}_{-0.054}$	$-0.020^{+0.250}_{-0.250}$	$3.661^{+0.327}_{-1.310}$	$1.919^{+0.155}_{-0.336}$	$0.055^{+0.126}_{-0.010}$
	+2%/-4%	+9%/-2%	+1250%/-1250%	+9%/-36%	+8%/-18%	+228%/-18%
Source	PHO1	FLK73	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 011811140-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-101±21	$6.16^{+4.29}_{-3.60}$	1189^{+64}_{-108}	5401^{+3390}_{-1043}	310^{+1587}_{-207}
Alt.	-215±31	$7.40^{+5.06}_{-3.82}$	1192^{+60}_{-111}	5832^{+3164}_{-1058}	456^{+1532}_{-289}

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 $A_{obs} \gg 1.0$

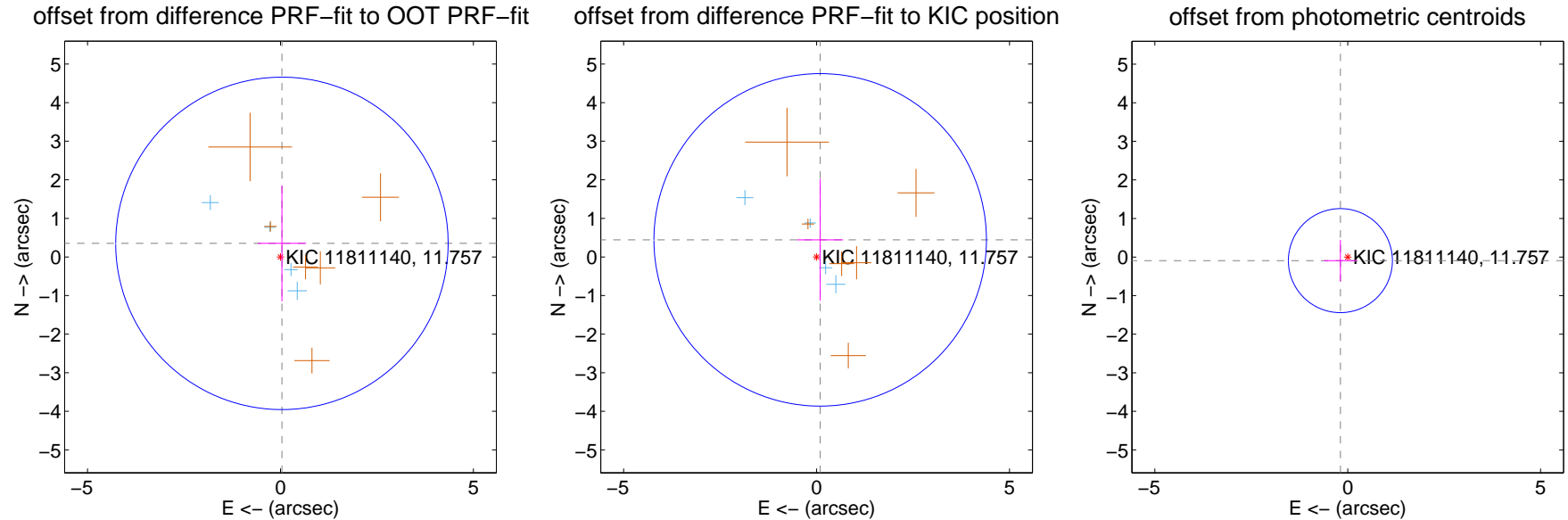
DV Centroid Data

Supplemental centroid analysis for 011811140-05. **Kepler magnitude: 11.76.** Transit SNR 8.41

There are 4 quarters with good PRF difference image offsets

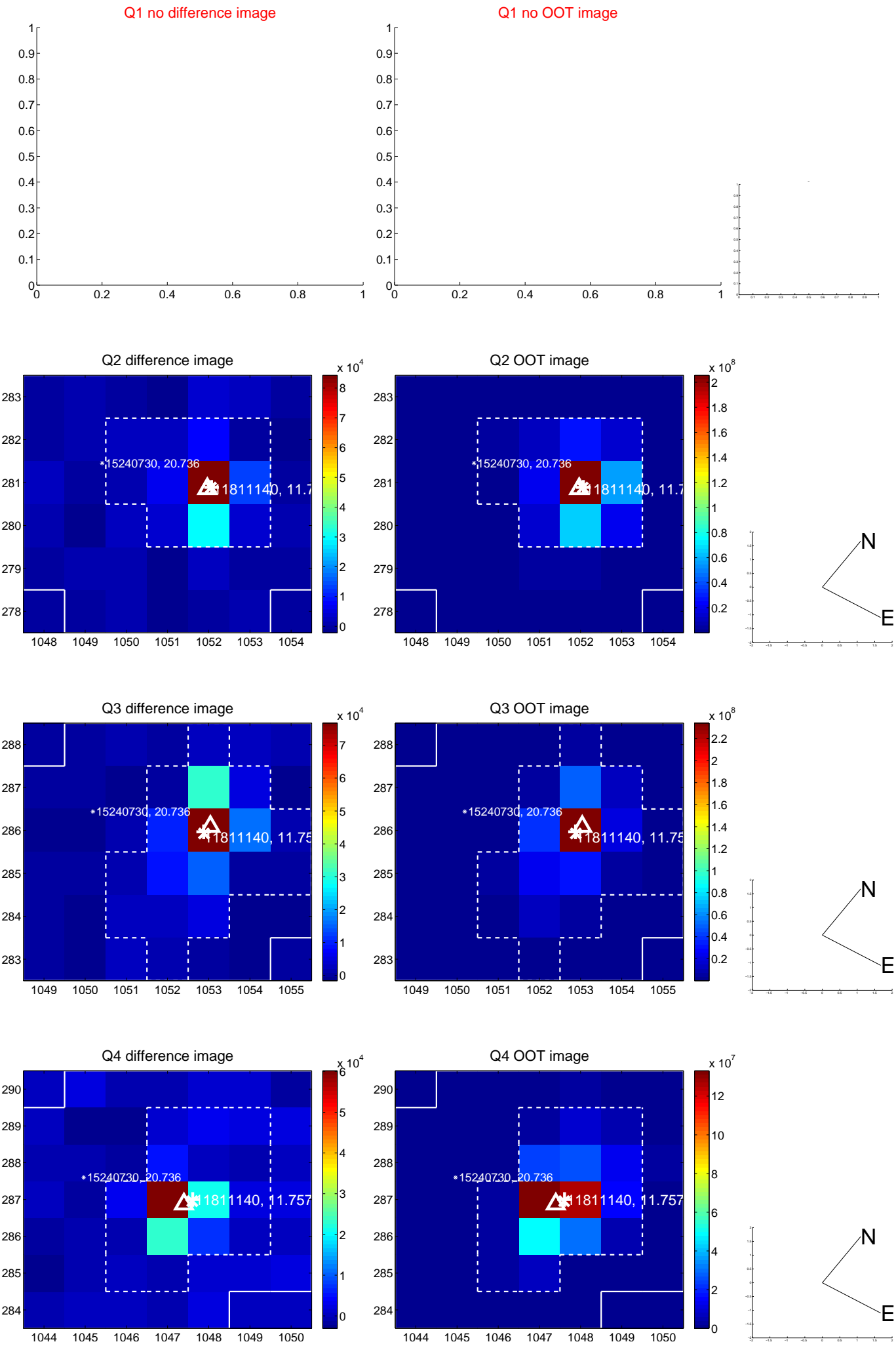
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.354 ± 1.436	0.25	-0.038 ± 0.626	0.352 ± 1.502
PRF-fit source offset from KIC position	0.453 ± 1.436	0.32	-0.093 ± 0.597	0.443 ± 1.574
photometric centroid source offset	0.21 ± 0.45	0.47	0.19 ± 0.43	-0.09 ± 0.54

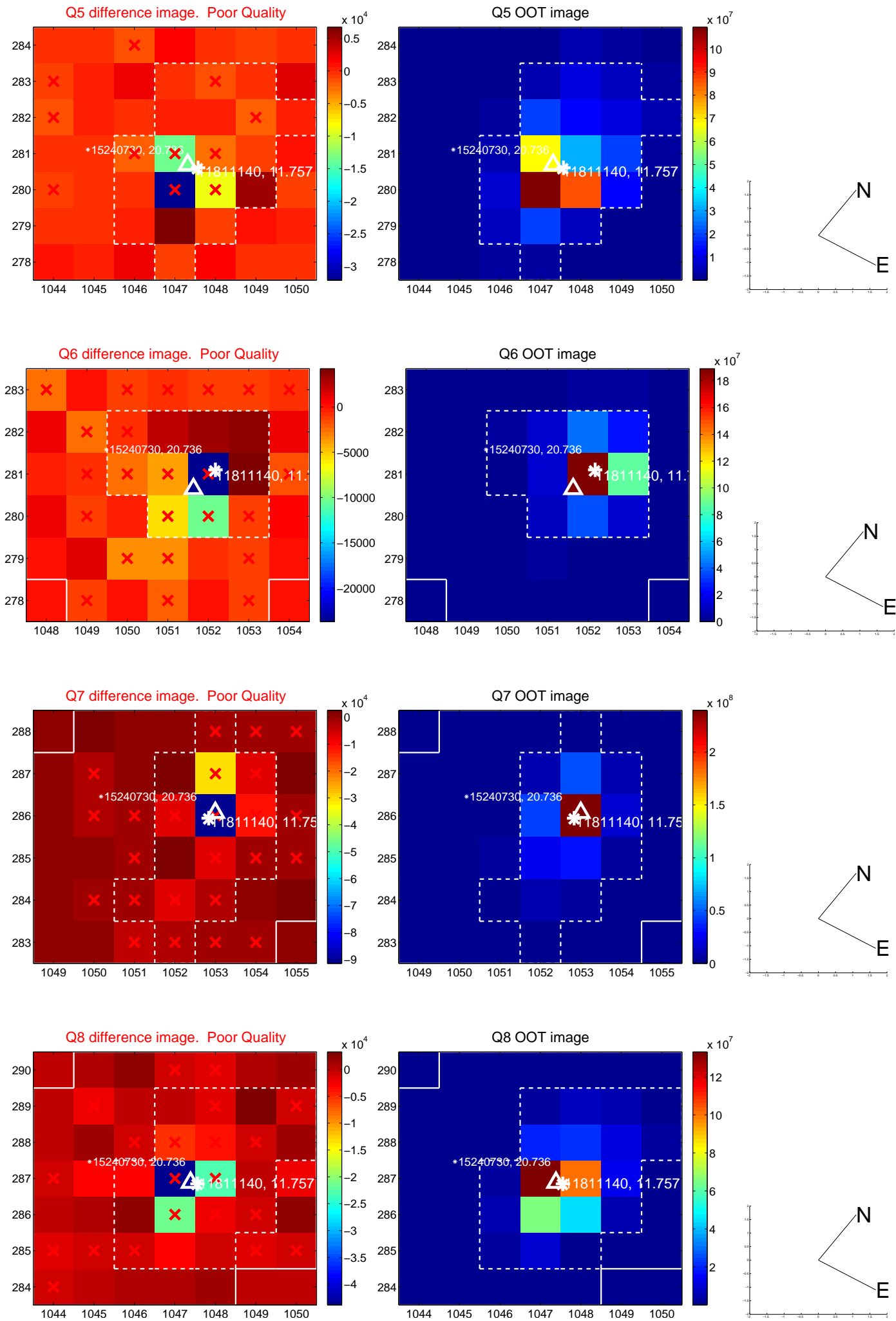


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

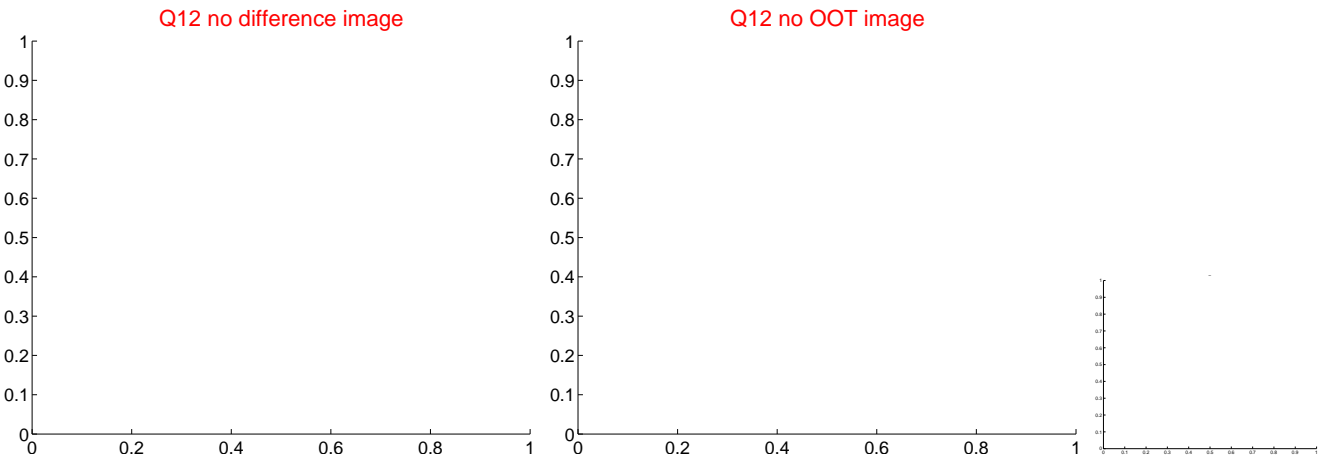
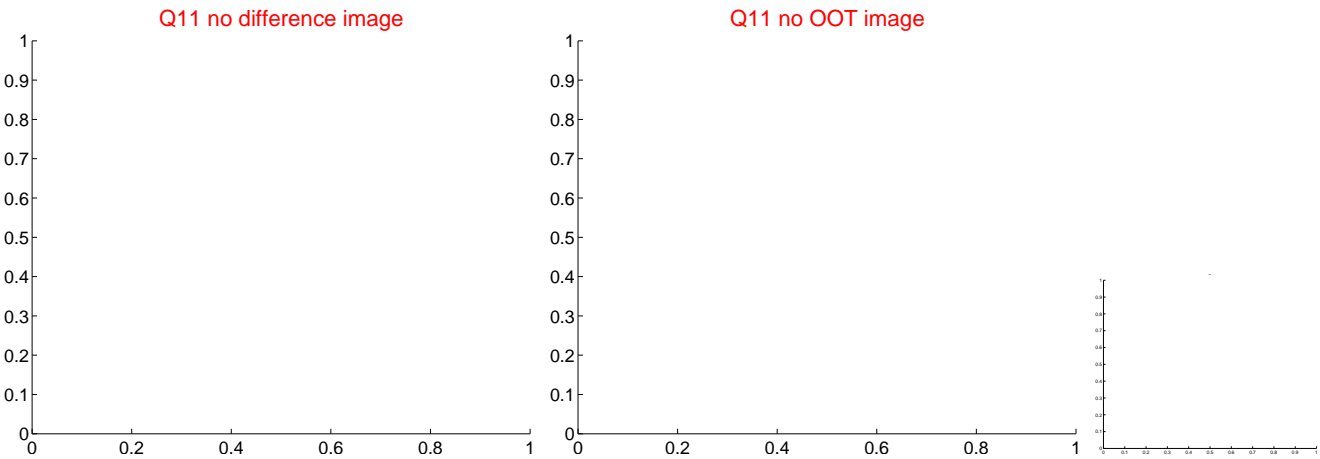
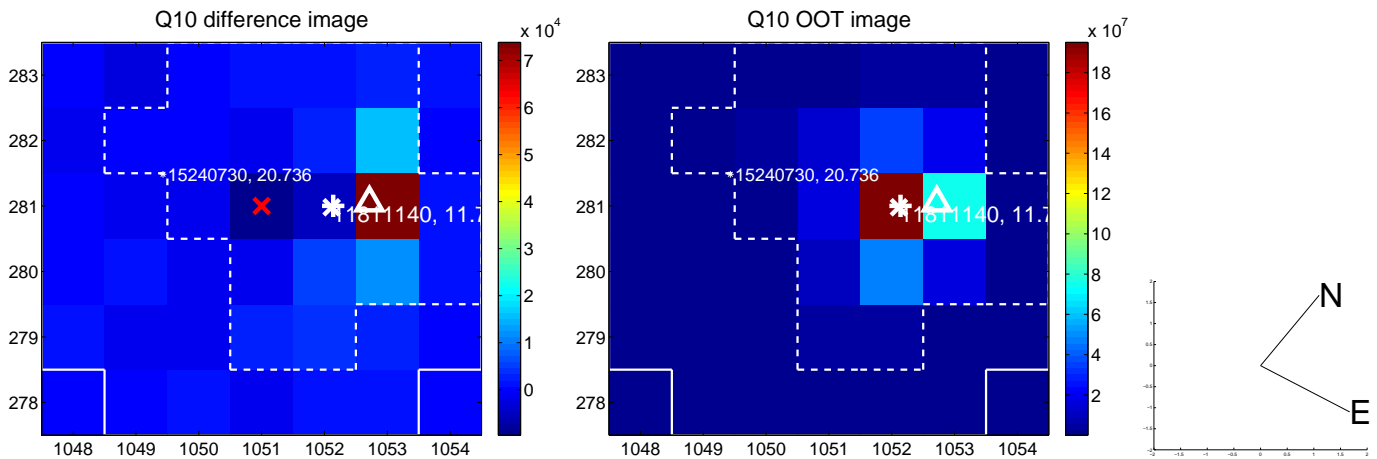
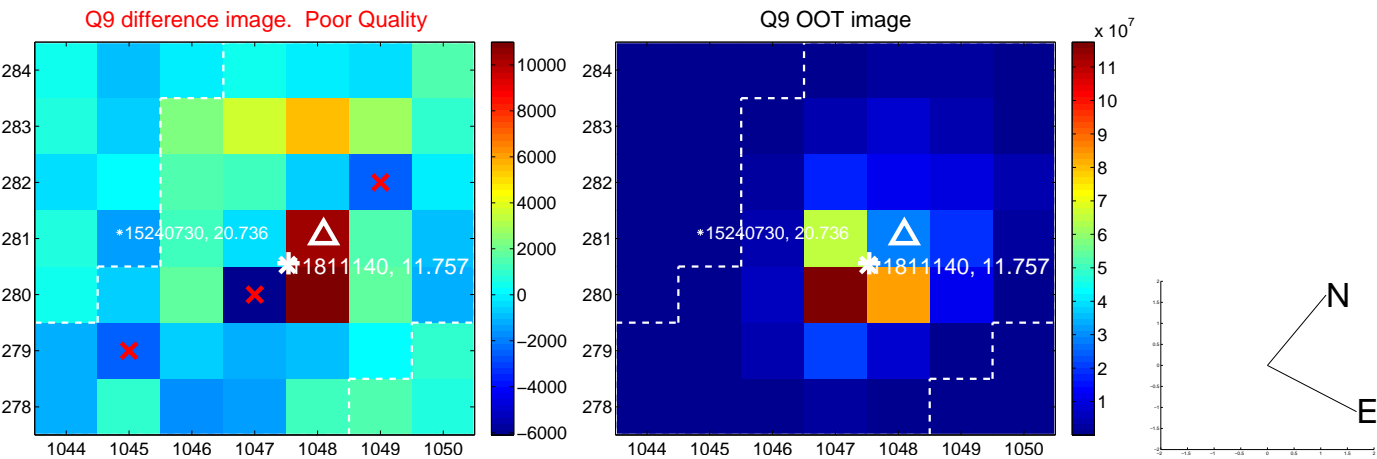
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



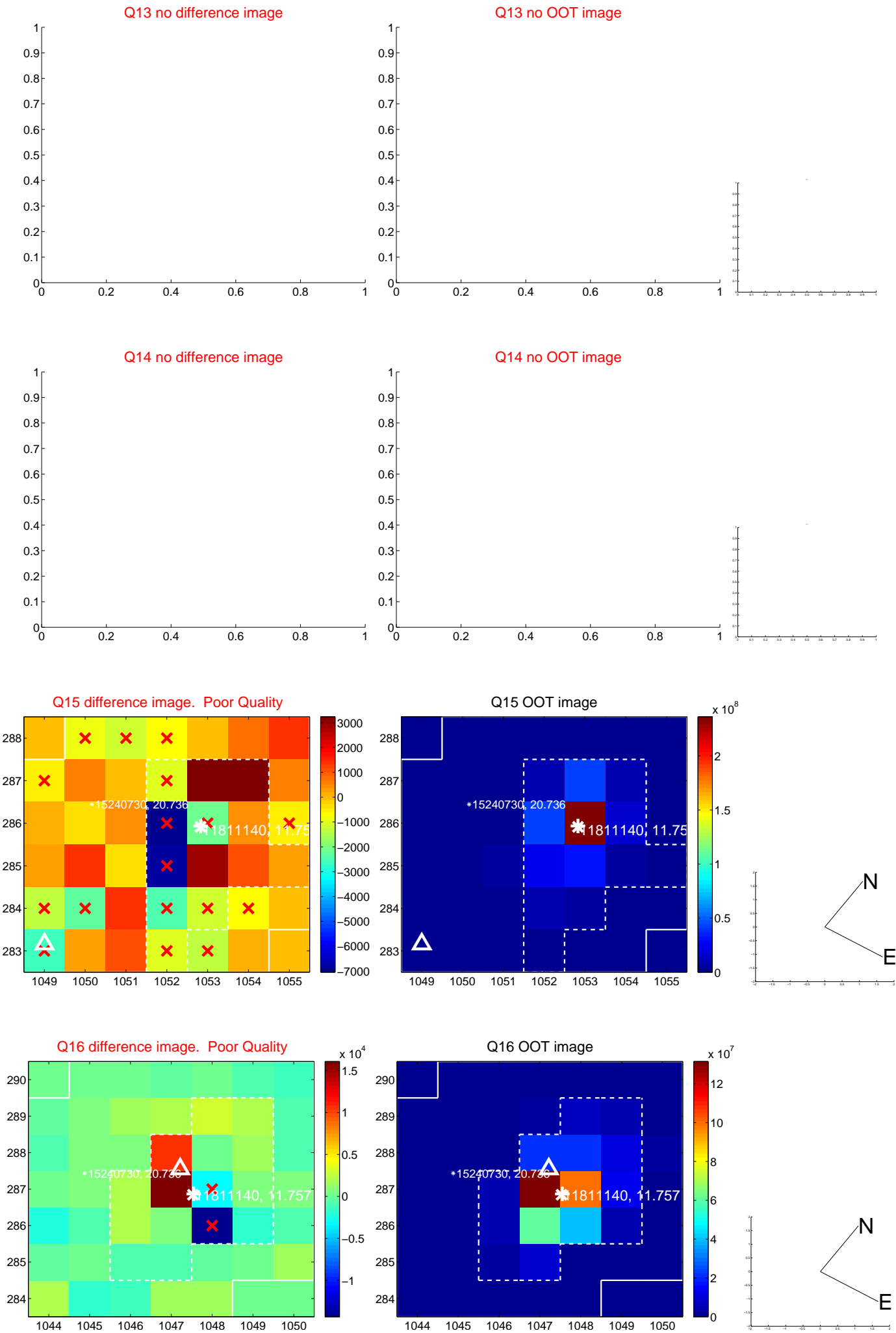
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



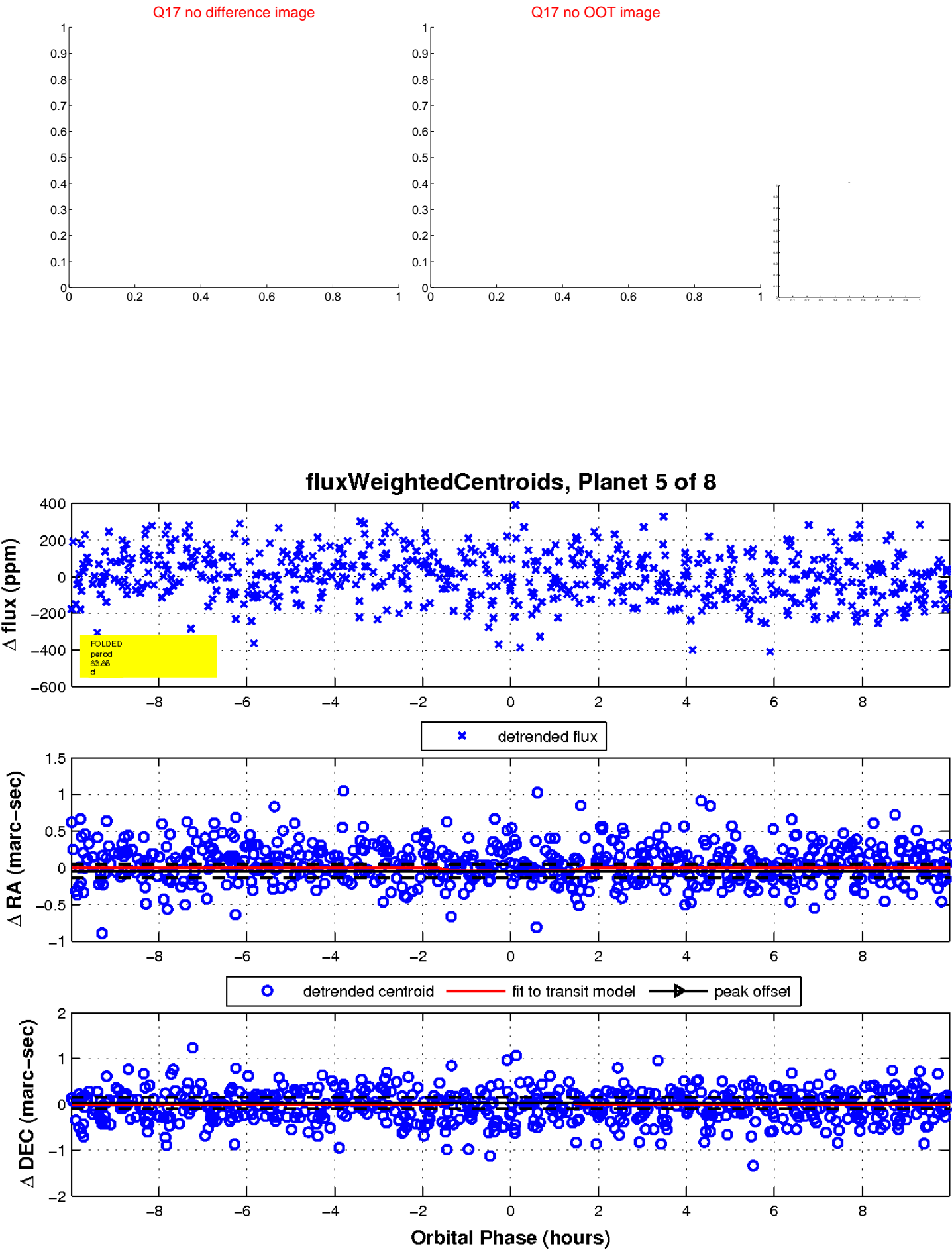
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



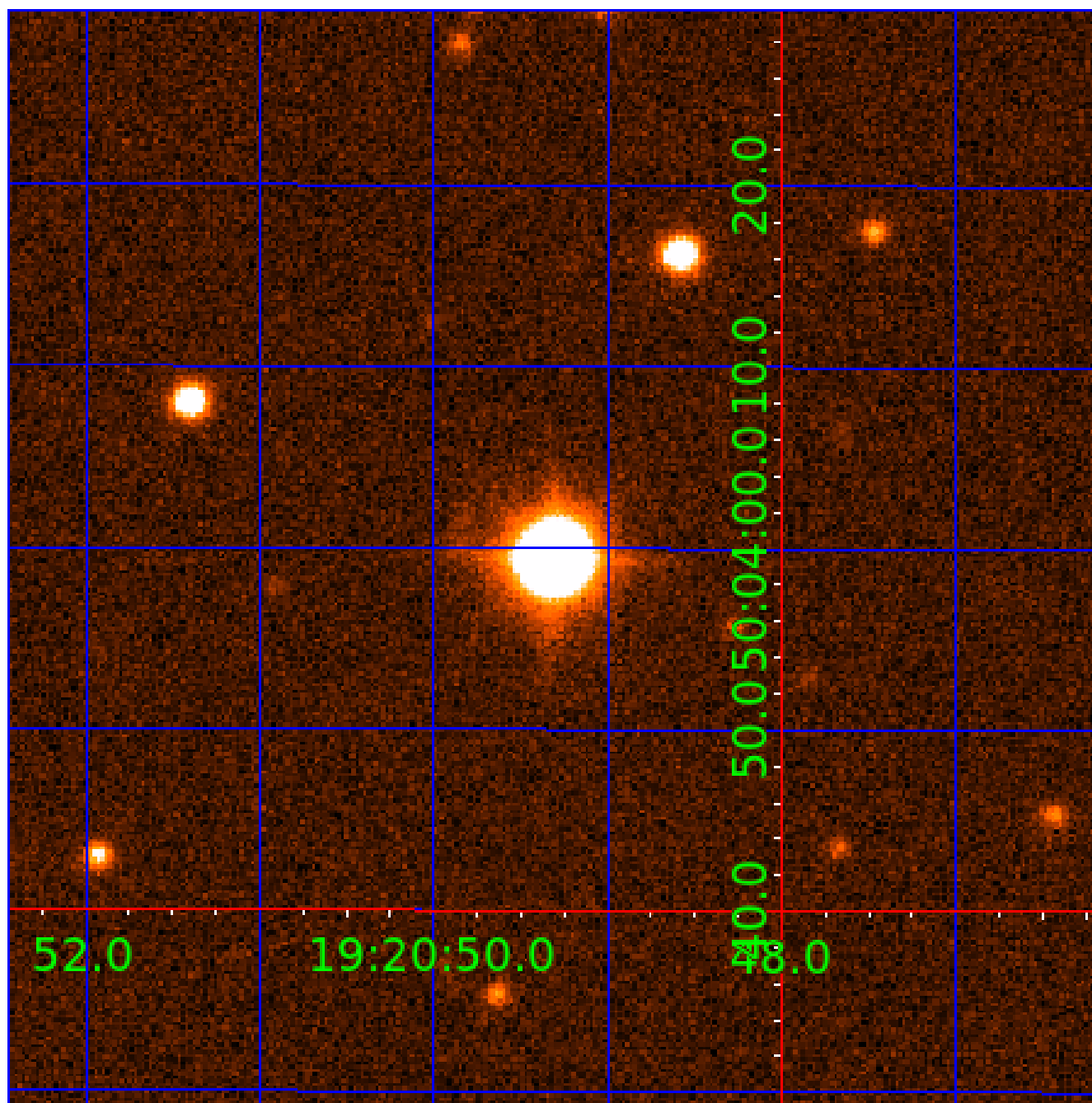
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



19:20:50.0

48.0

KIC 011811140

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})
011811140-01	OBS	No	0.807258	132.027011	18.8	4.414	9.4	10.7	3.66	7076	1.68	67675.13
011811140-02	OBS	No	111.100730	216.201662	225.8	3.240	8.9	8.8	3.66	7076	6.00	95.24
011811140-03	OBS	No	110.664599	224.510088	203.6	2.456	8.8	8.4	3.66	7076	5.93	95.74
011811140-04	OBS	No	142.663359	218.297691	294.8	1.797	8.7	7.6	3.66	7076	6.82	68.24
011811140-05	OBS	No	83.860304	199.528002	210.3	3.341	8.4	8.4	3.66	7076	5.99	138.58
011811140-06	OBS	No	160.333575	211.811004	217.9	11.065	7.8	9.1	3.66	7076	6.43	58.40
011811140-07	OBS	No	139.061696	200.981521	275.9	1.868	7.9	8.2	3.66	7076	7.07	70.61
011811140-08	OBS	No	104.873512	149.632424	185.2	8.082	7.8	8.2	3.66	7076	6.38	102.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011811140-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
011811140-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
011811140-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011811140-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011811140-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

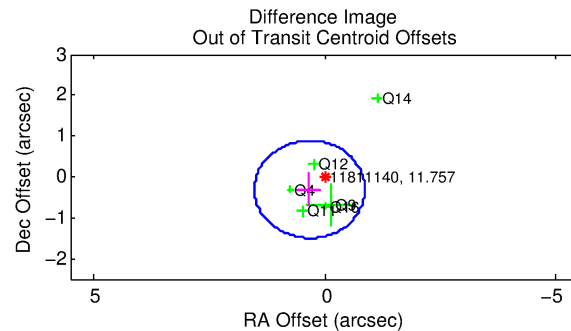
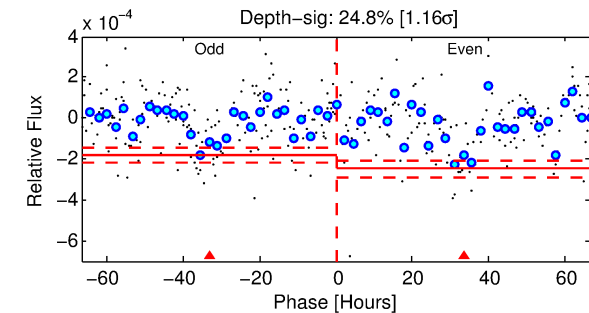
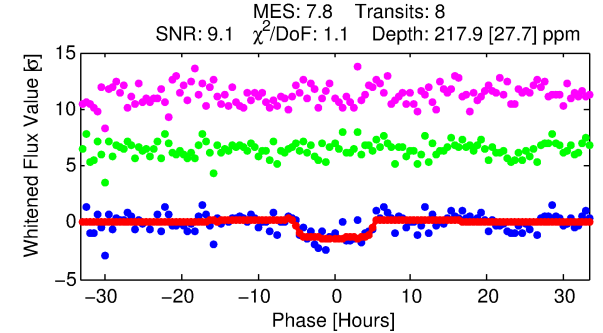
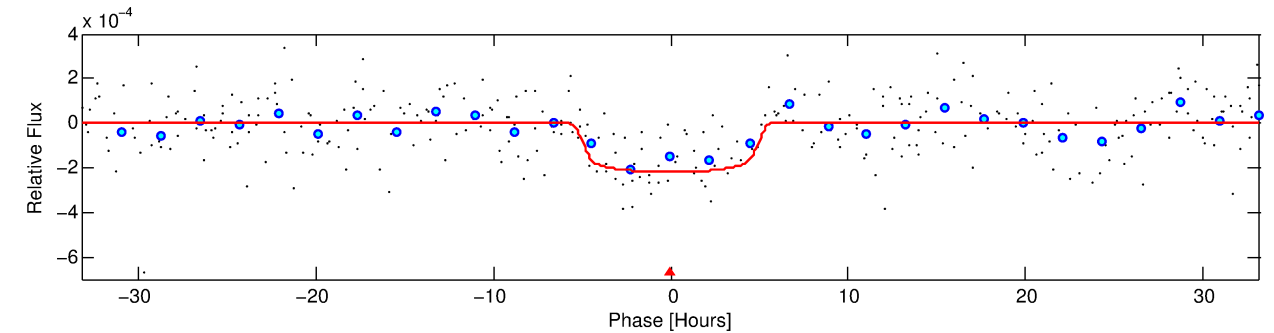
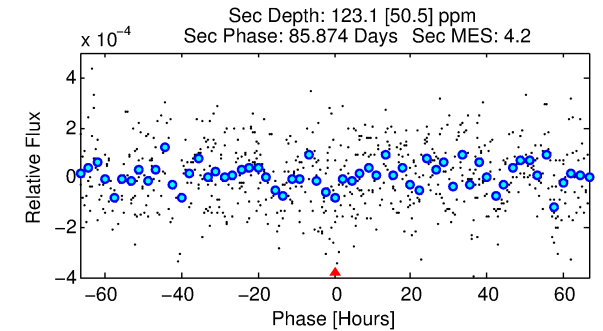
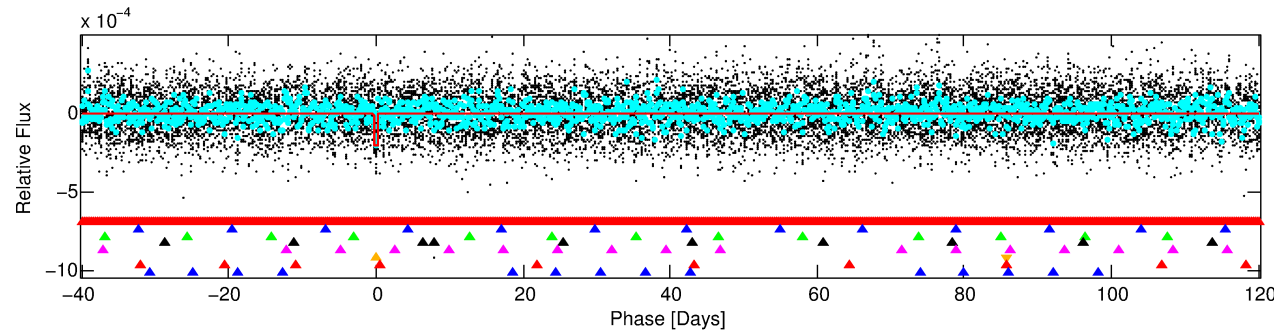
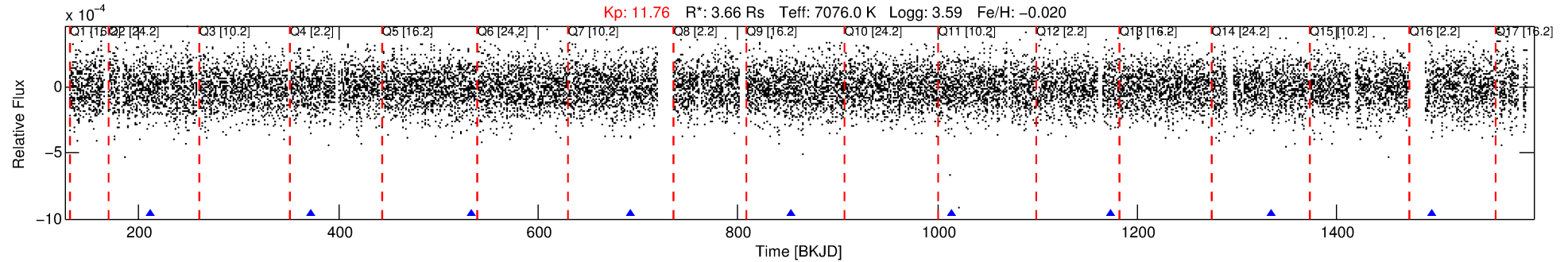
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011811140-06

No Significant Match Found

DV One-Page Summary

KIC: 11811140 Candidate: 6 of 8 Period: 160.334 d



DV Fit Results:

Period = 160.33358 [0.00360] d
Epoch = 211.8110 [0.0188] BKJD
Rp/R* = 0.0161 [0.0015]
a/R* = 45.80 [18.37]
b = 0.93 [0.06]
Seff = 58.40 [33.27]
Teff = 705 [100] K
Rp = 6.43 [2.38] Re
a = 0.7180 [0.2474] AU
Ag = 844.29 [602.43] [1.40σ]
Teffp = 5875 [697] K [7.34σ]

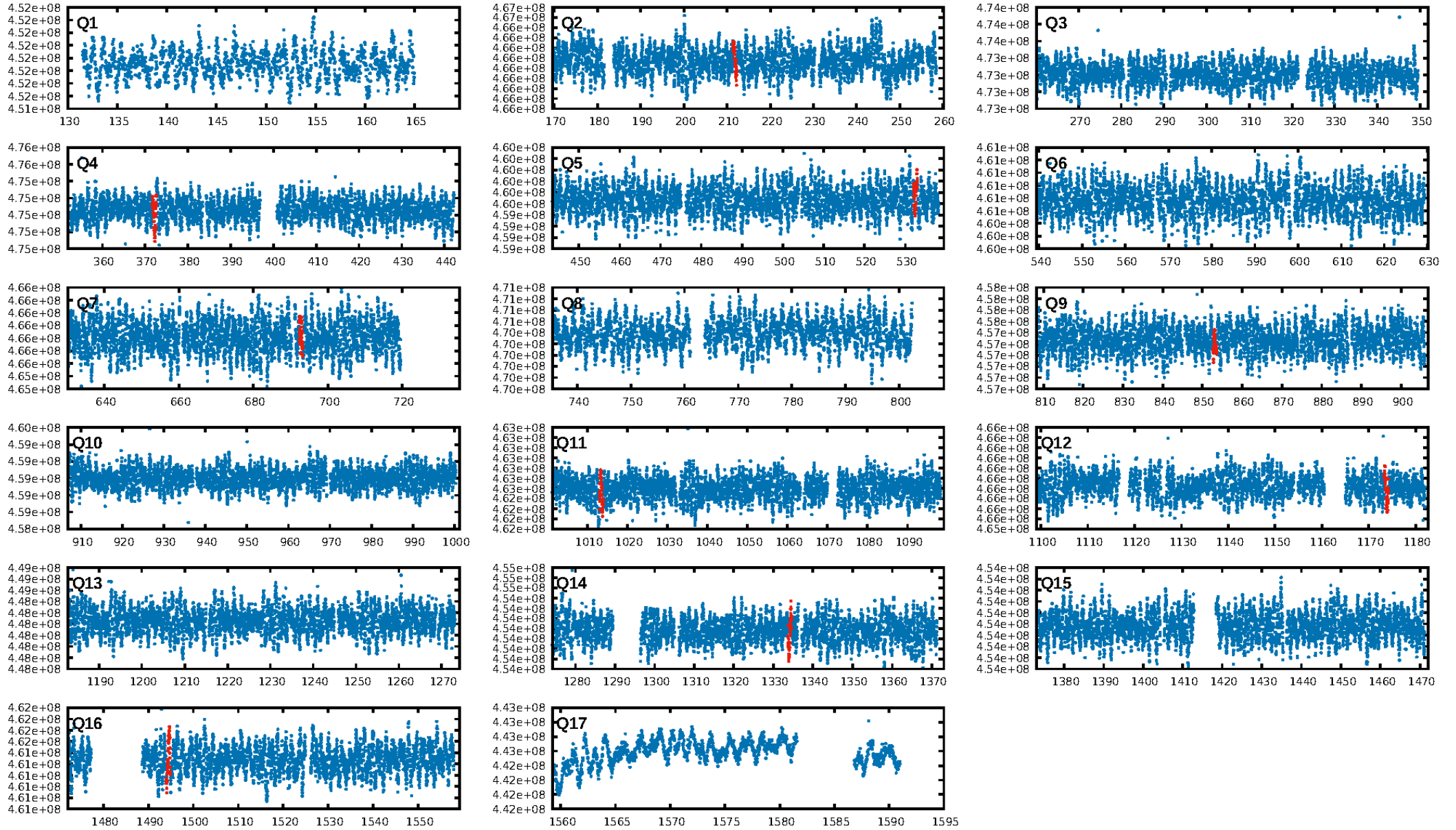
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [37.83σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 79.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.59e-08
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 1.762
Centroid-sig: 54.3%
Centroid-so: 0.370 arcsec [0.93σ]
OotOffset-rm: 0.449 arcsec [1.13σ]
KicOffset-rm: 0.315 arcsec [0.67σ]
OotOffset-st: 1/1/3/1 [6]
KicOffset-st: 1/1/3/1 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 0.00 [0/8]

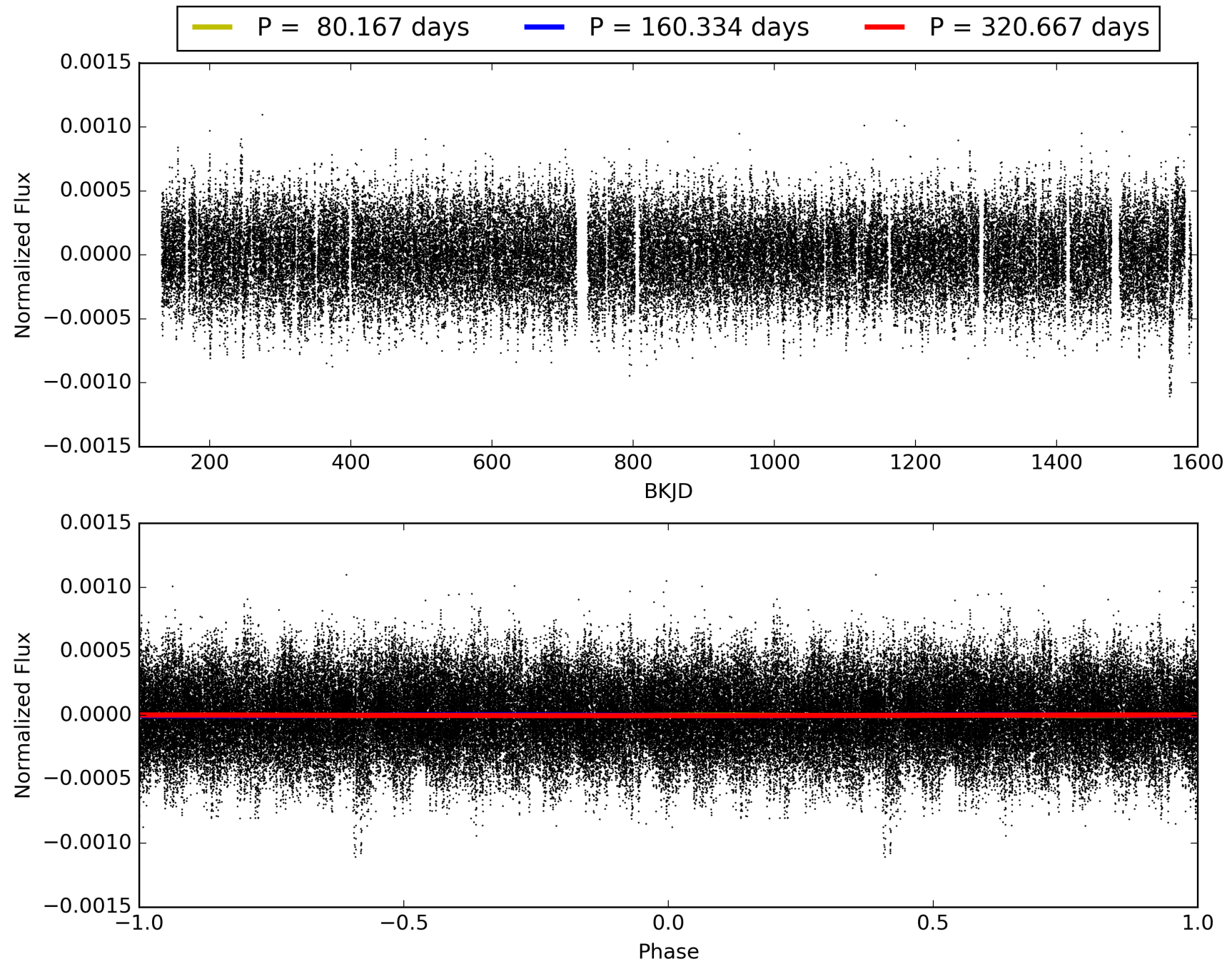
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:06:05 Z

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

TCE 011811140-06, PDC Light Curves

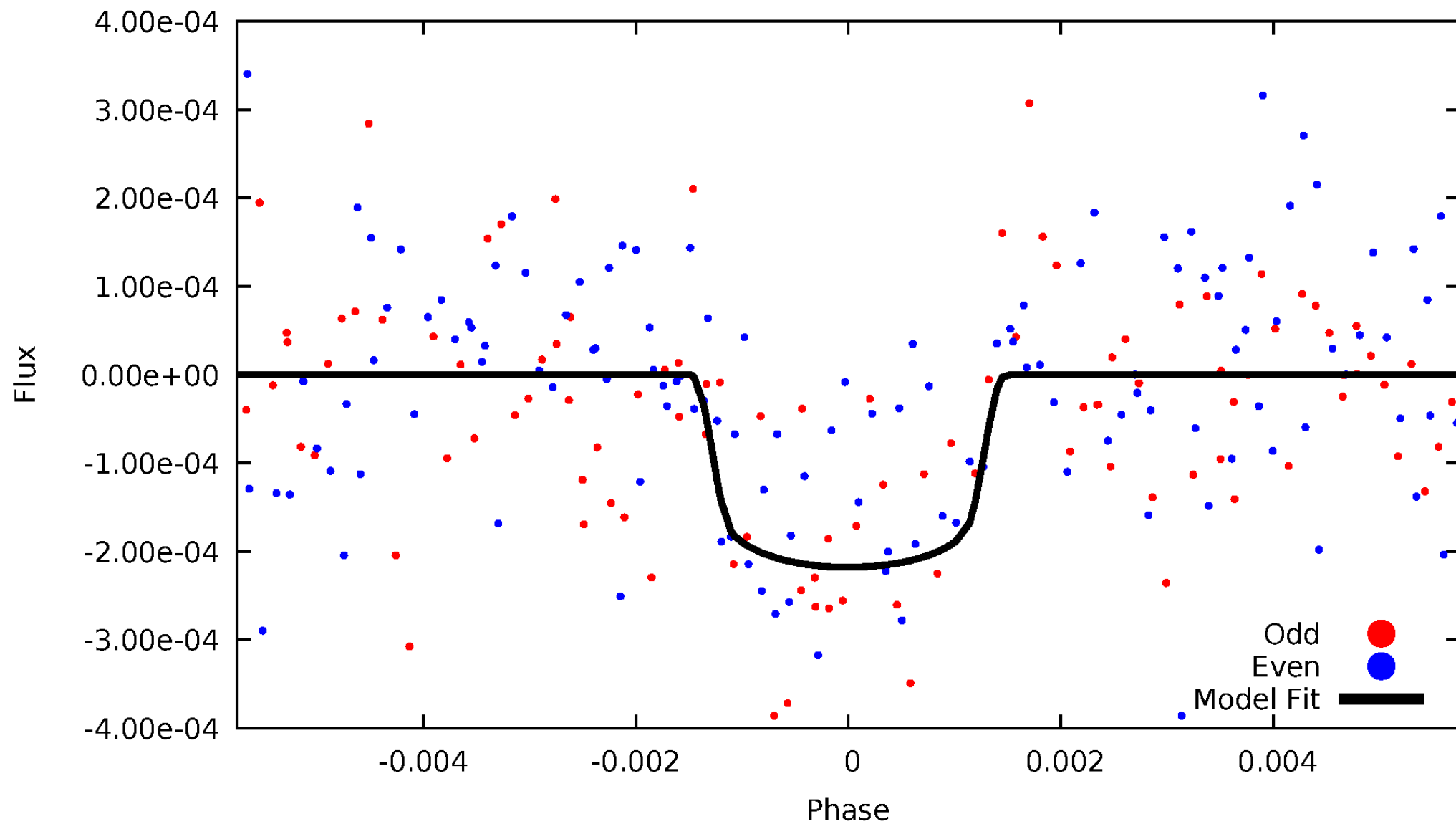


TCE 011811140-06



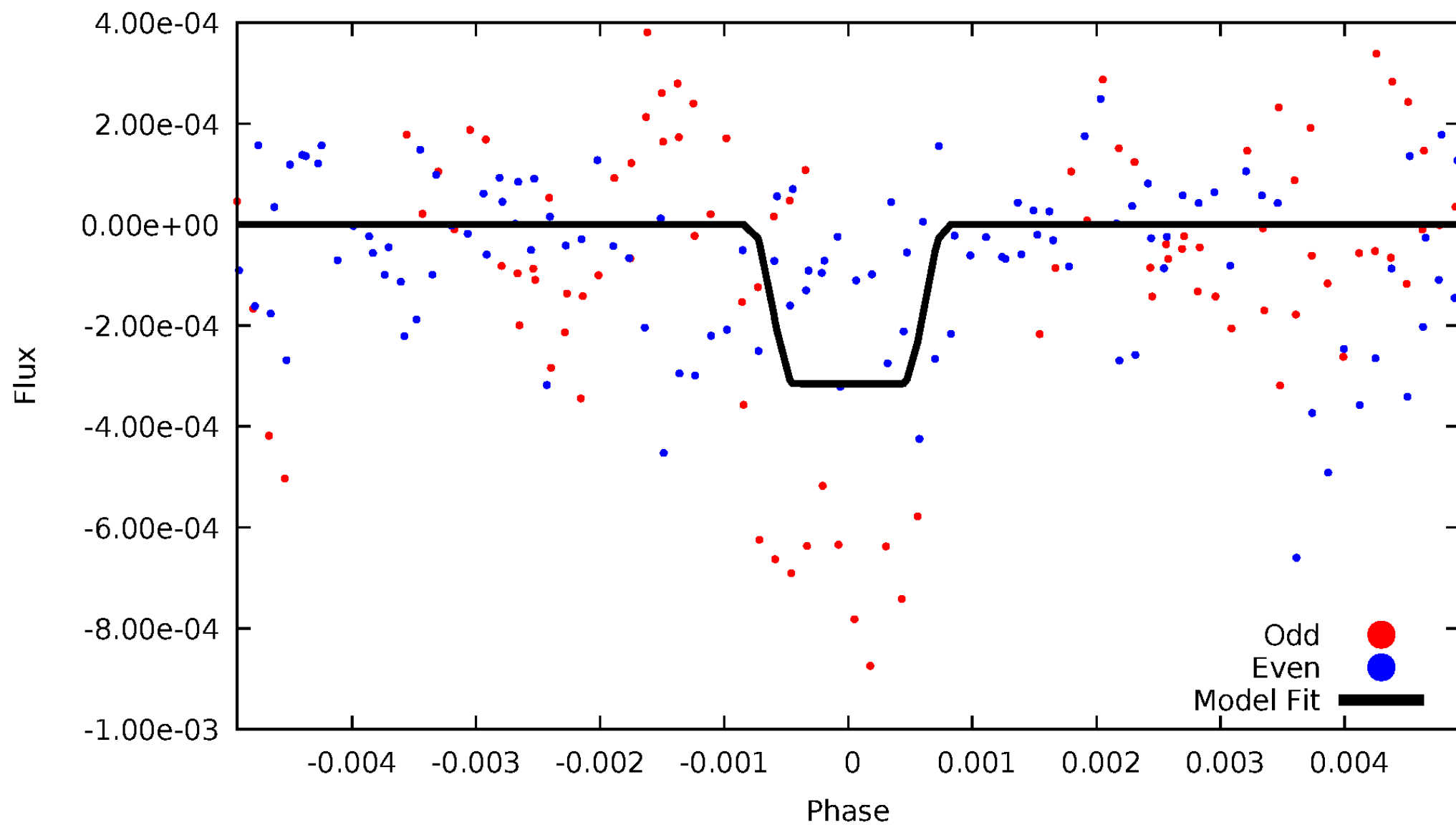
DV Odd/Even

TCE 011811140-06



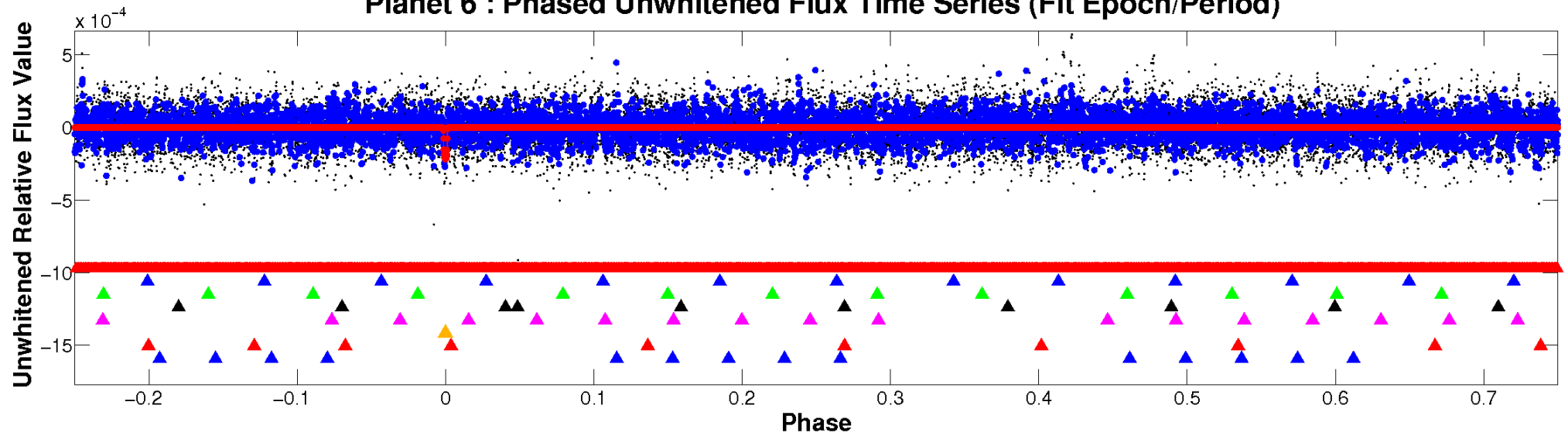
ALT Odd/Even

TCE 011811140-06

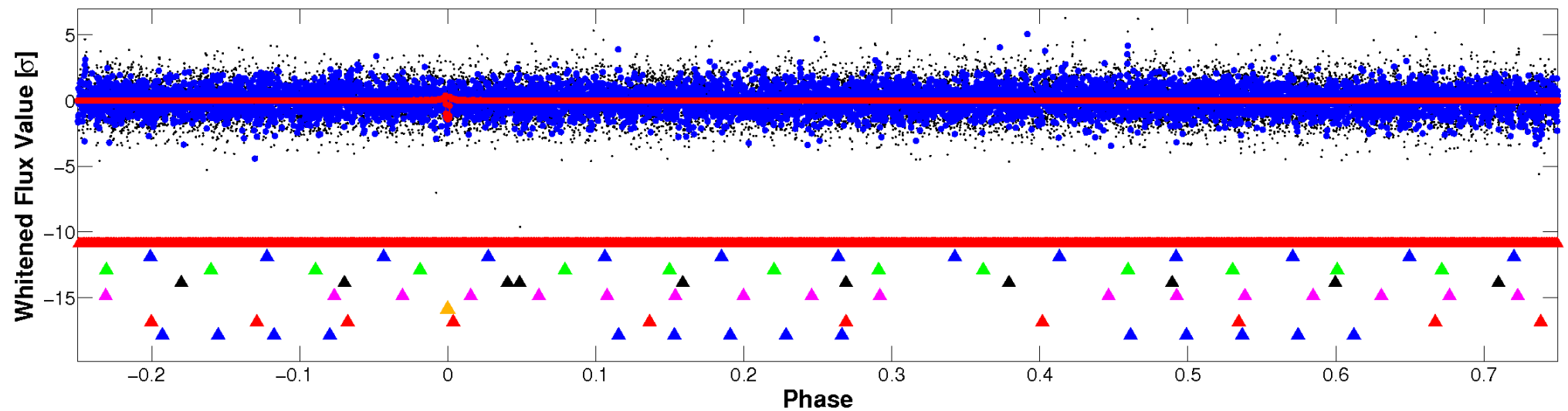


Non-Whitened Vs. Whitened Light Curve

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

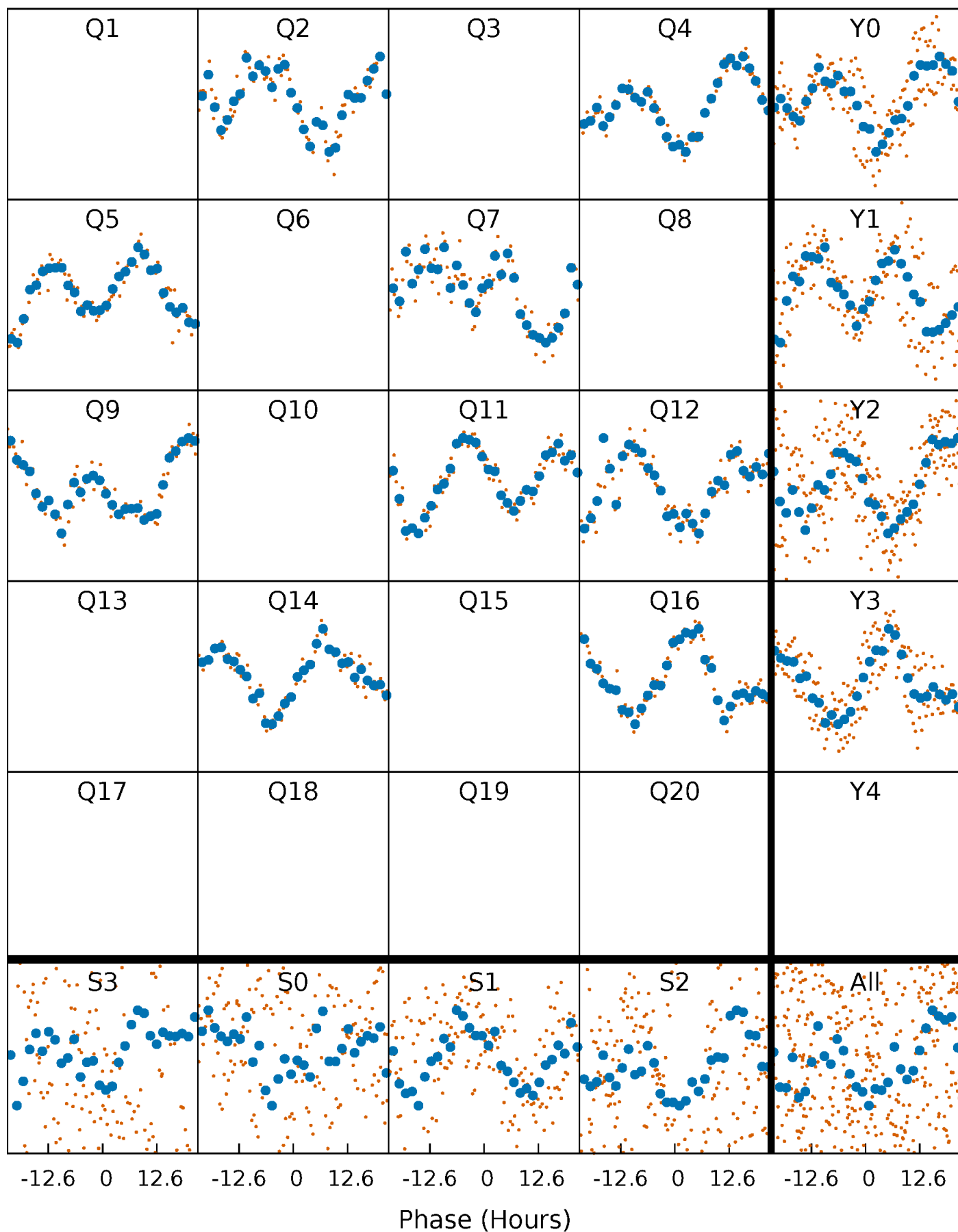


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



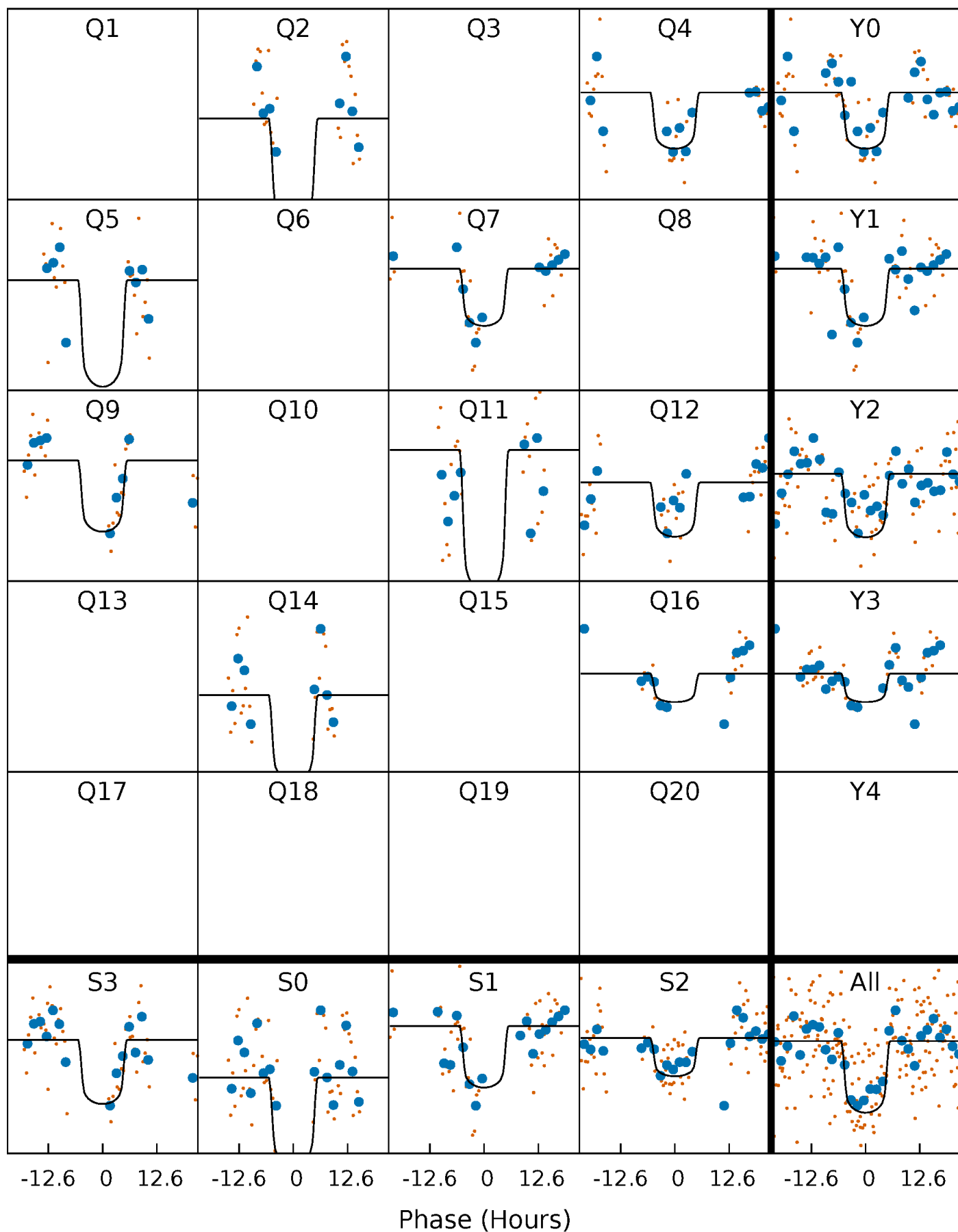
PDC Quarter-Phased Transit Curves

TCE 011811140-06 P=160.333575 Days $T_0=211.811004$ (BKJD)



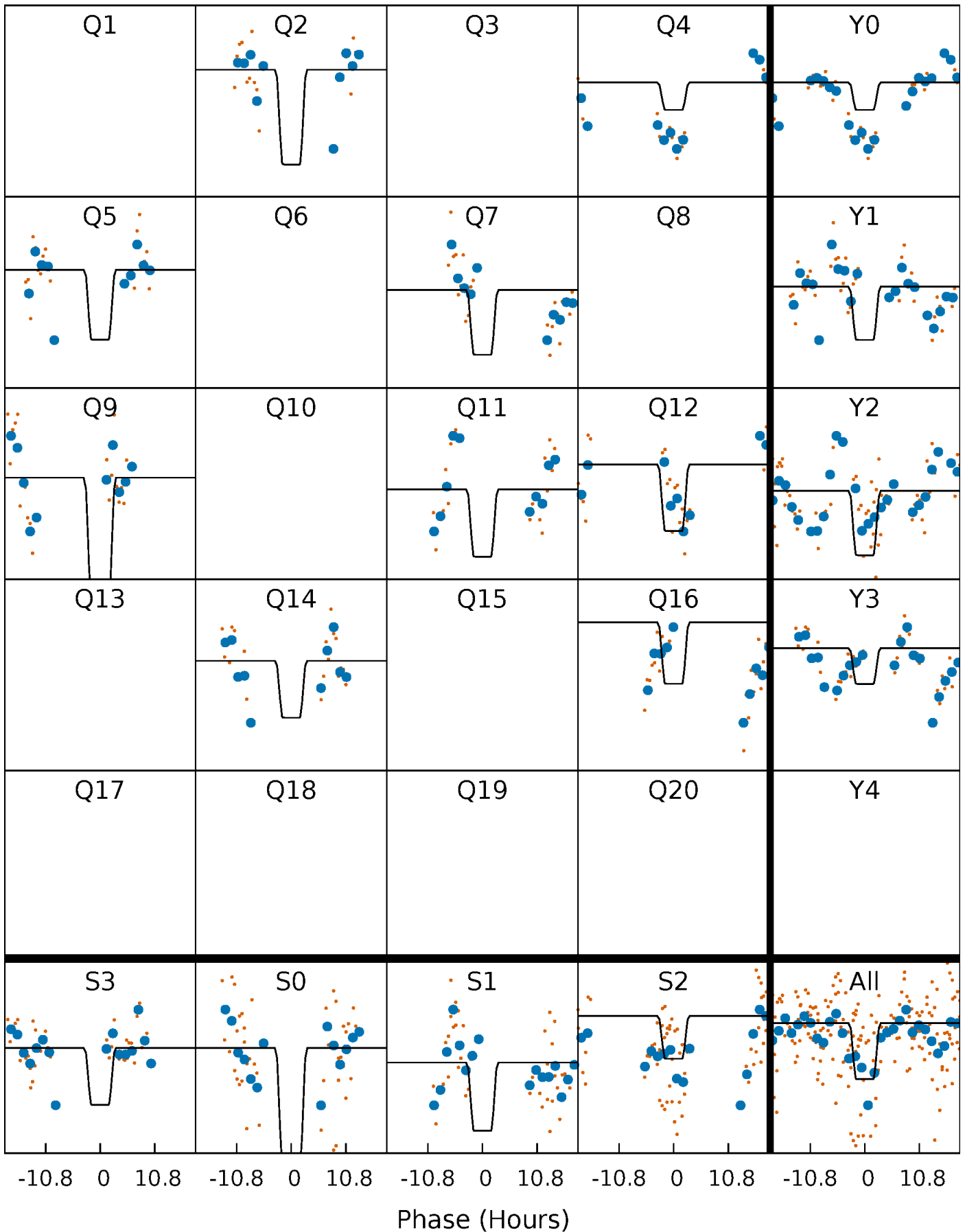
DV Quarter-Phased Transit Curves

TCE 011811140-06 P=160.333575 Days $T_0=211.811004$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

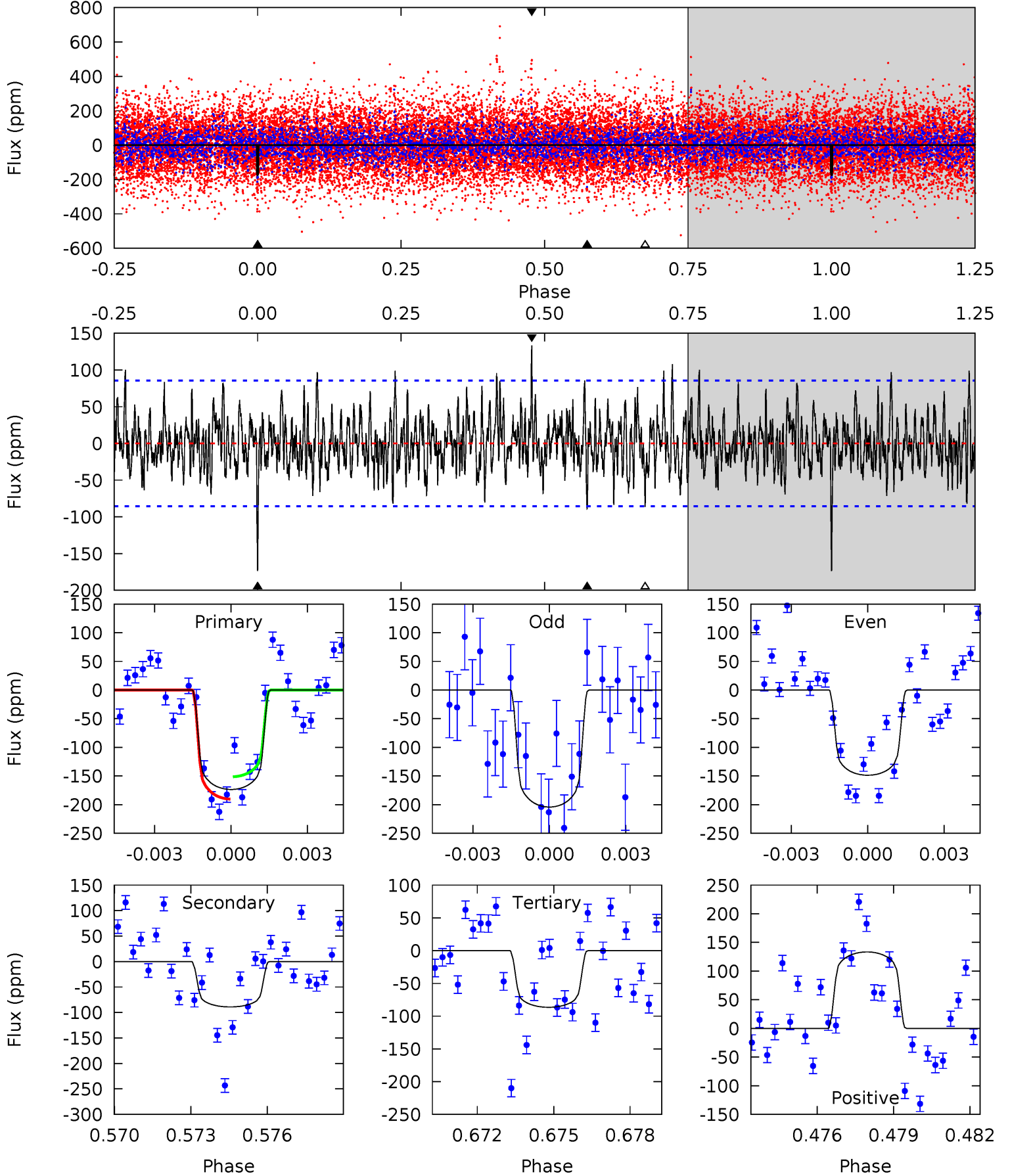
TCE 011811140-06 P=160.313405 Days $T_0=211.896661$ (BKJD)



DV Model-Shift Uniqueness Test

011811140-06, P = 160.333575 Days, E = 51.477429 Days

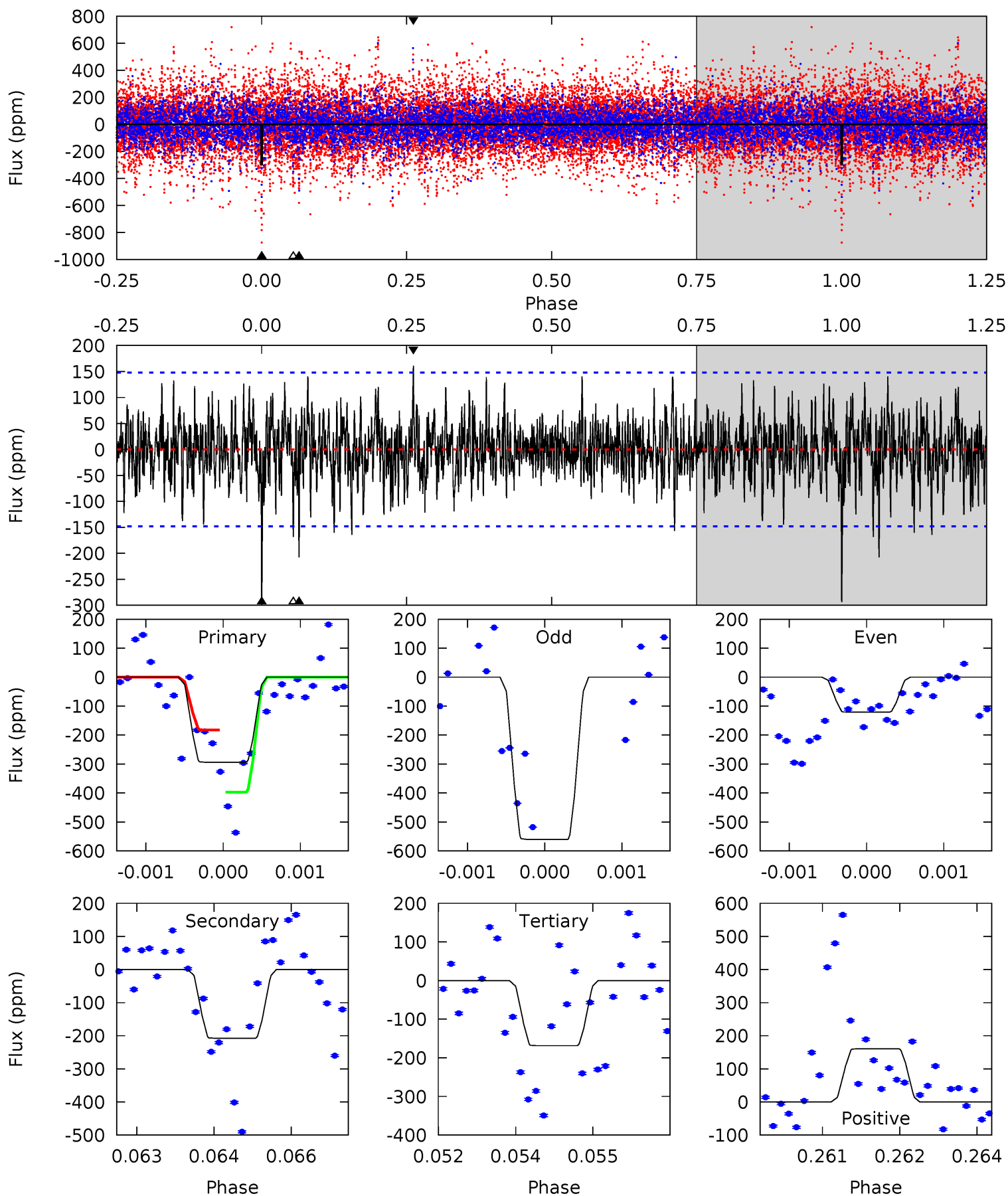
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	5.47	5.31	8.19	5.26	2.97	1.89	5.34	2.47	0.16	-2.72	1.71	1.03	0.43	1.17



Alt Model-Shift Uniqueness Test

011811140-06, P = 160.313405 Days, E = 51.583256 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	7.55	6.13	5.85	5.38	3.18	1.62	4.56	4.85	1.42	1.70	7.86	1.67	0.35	3.82



Stellar Parameters For KIC 011811140

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7076^{+168}_{-252}	$3.594^{+0.324}_{-0.054}$	$-0.020^{+0.250}_{-0.250}$	$3.661^{+0.327}_{-1.310}$	$1.919^{+0.155}_{-0.336}$	$0.055^{+0.126}_{-0.010}$
	+2%/-4%	+9%/-2%	+1250%/-1250%	+9%/-36%	+8%/-18%	+228%/-18%
Source	PHO1	FLK73	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 011811140-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-89 ± 16	$6.09^{+0.92}_{-1.22}$	961^{+49}_{-86}	5388^{+385}_{-310}	681^{+381}_{-183}
Alt.	-207 ± 27	$6.79^{+0.89}_{-1.29}$	959^{+49}_{-87}	6283^{+389}_{-375}	1294^{+587}_{-326}

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 $A_{obs} \gg 1.0$

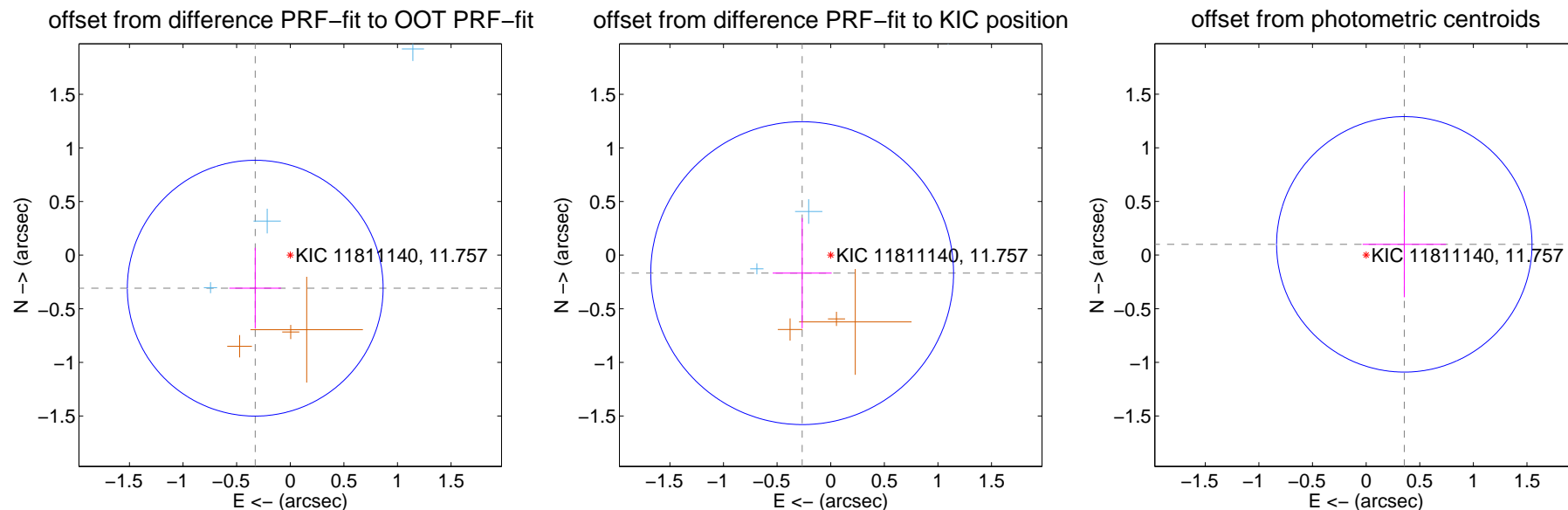
DV Centroid Data

Supplemental centroid analysis for 011811140-06. **Kepler magnitude: 11.76.** Transit SNR 9.14

There are 3 quarters with good PRF difference image offsets

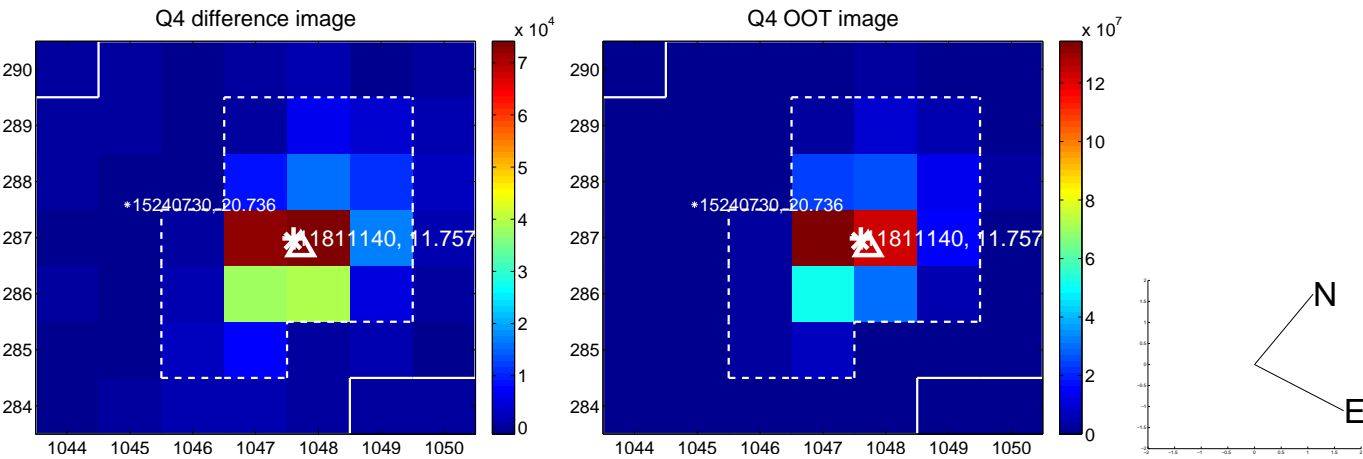
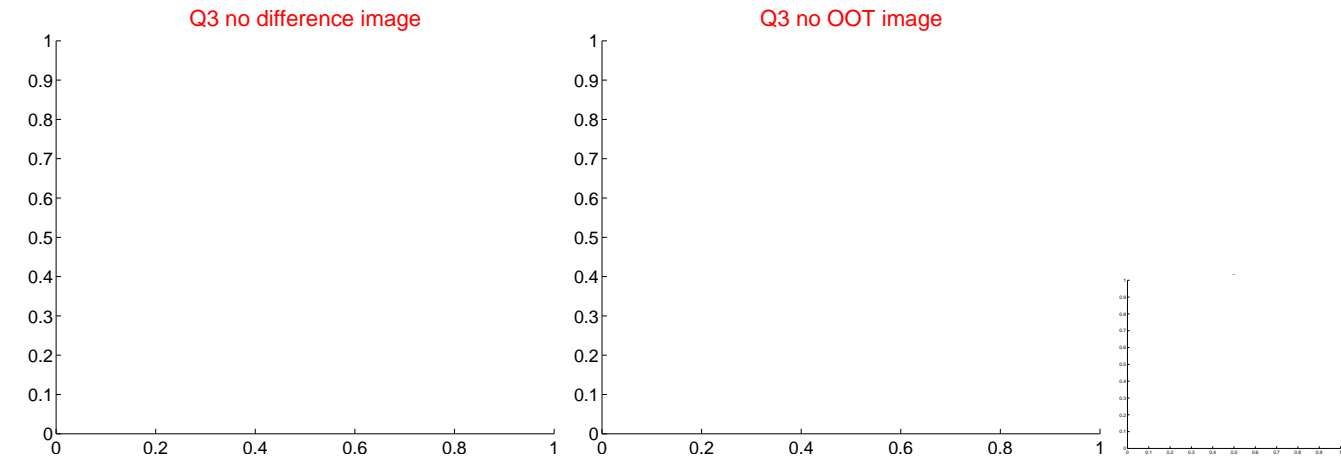
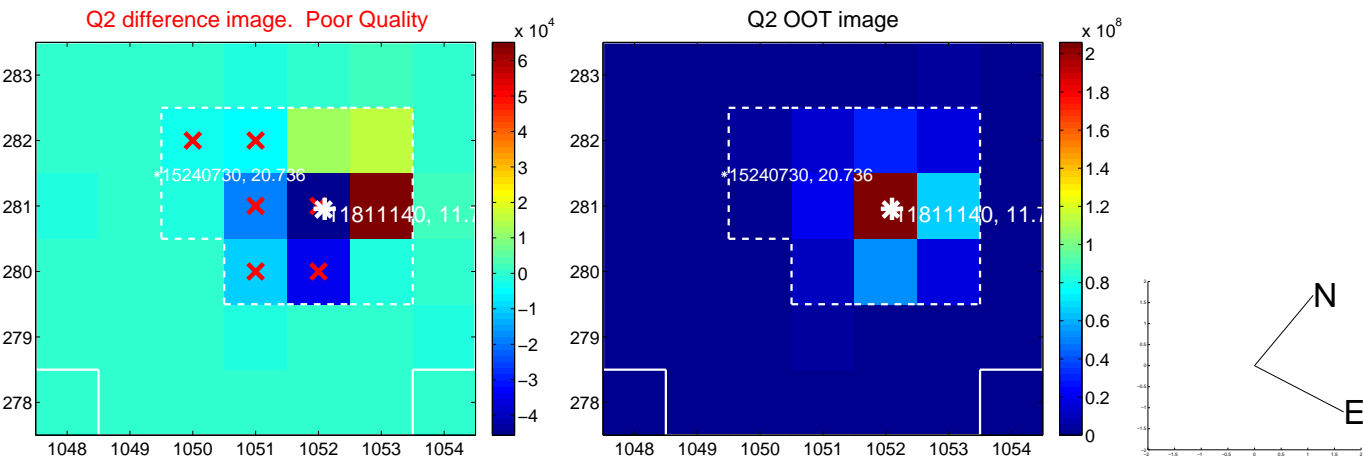
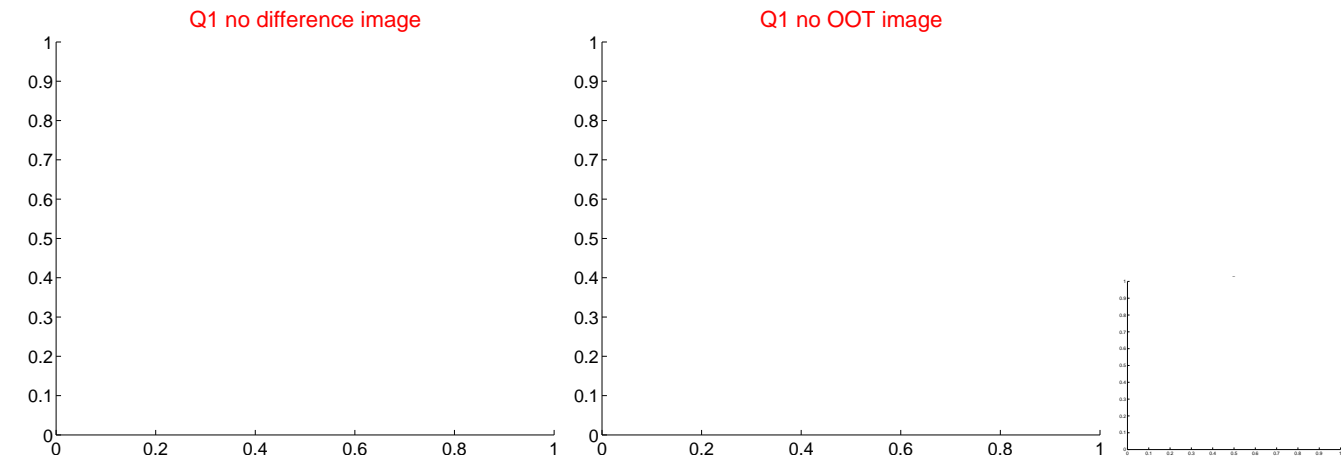
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.449 ± 0.398	1.13	0.327 ± 0.242	-0.308 ± 0.376
PRF-fit source offset from KIC position	0.315 ± 0.471	0.67	0.266 ± 0.275	-0.168 ± 0.514
photometric centroid source offset	0.37 ± 0.40	0.93	-0.36 ± 0.39	0.10 ± 0.49

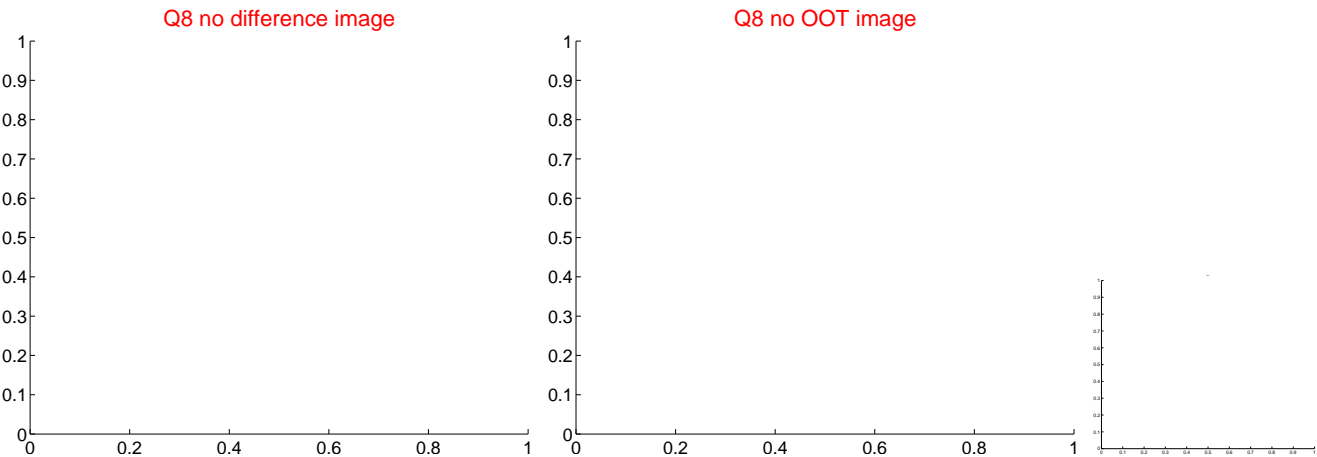
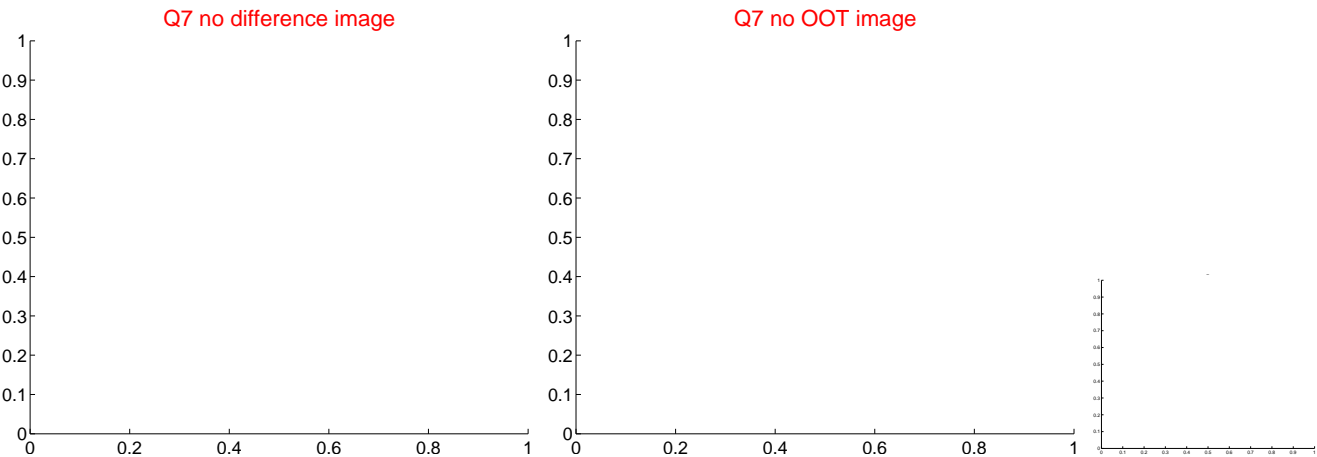
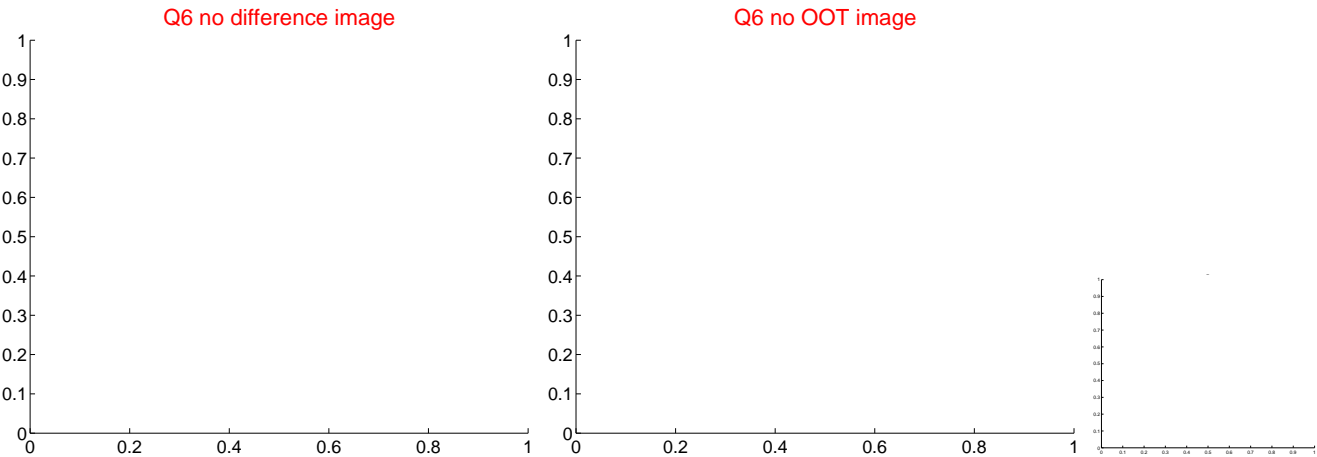
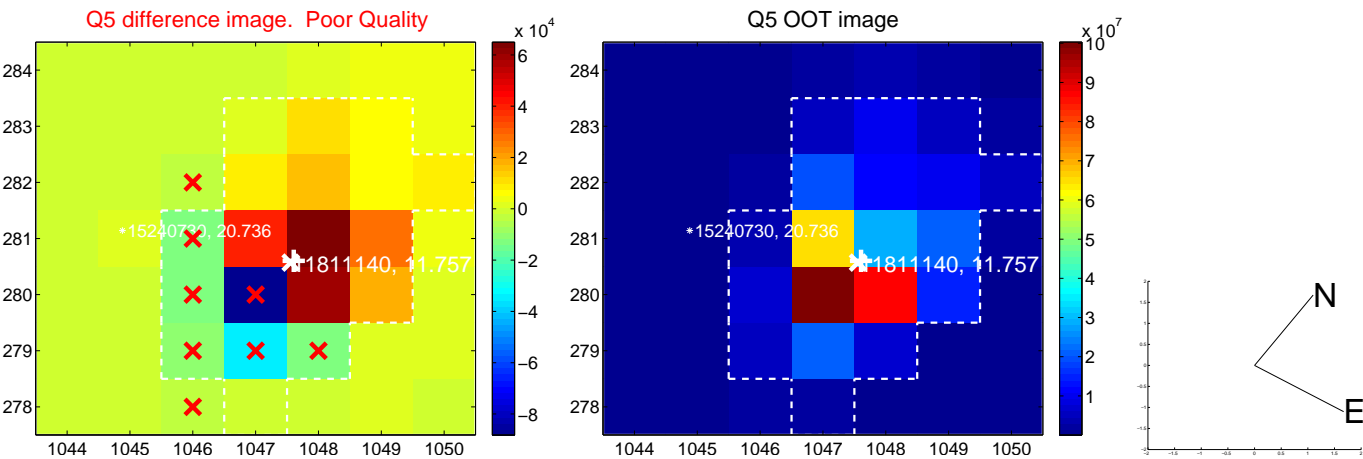


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

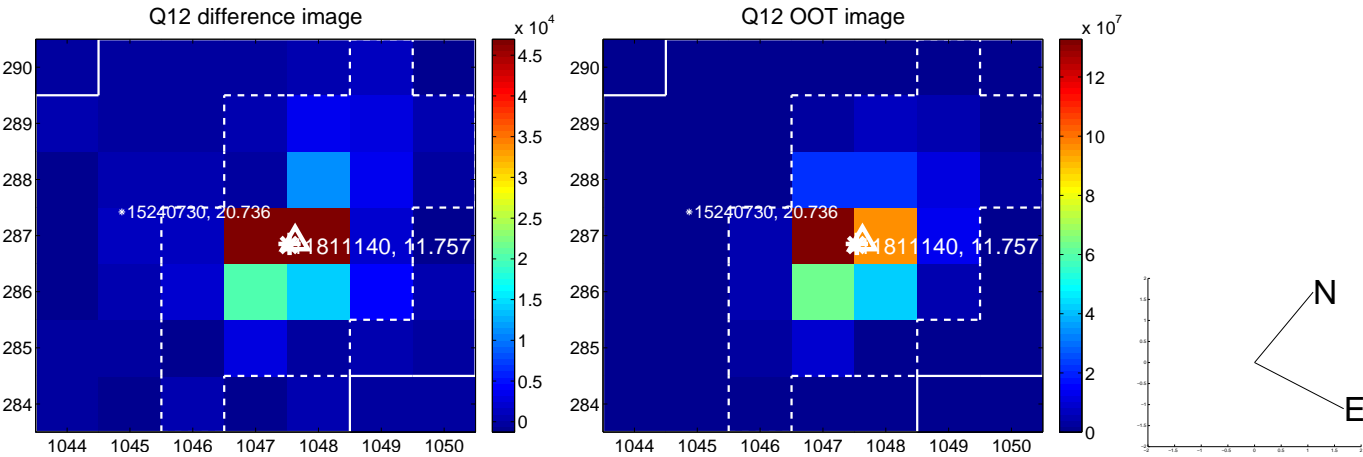
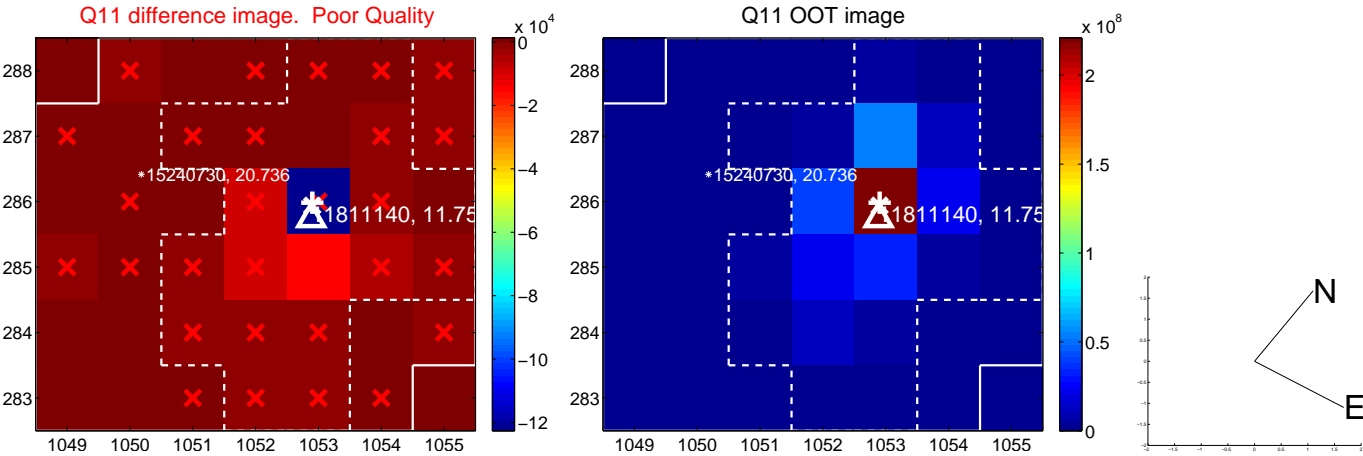
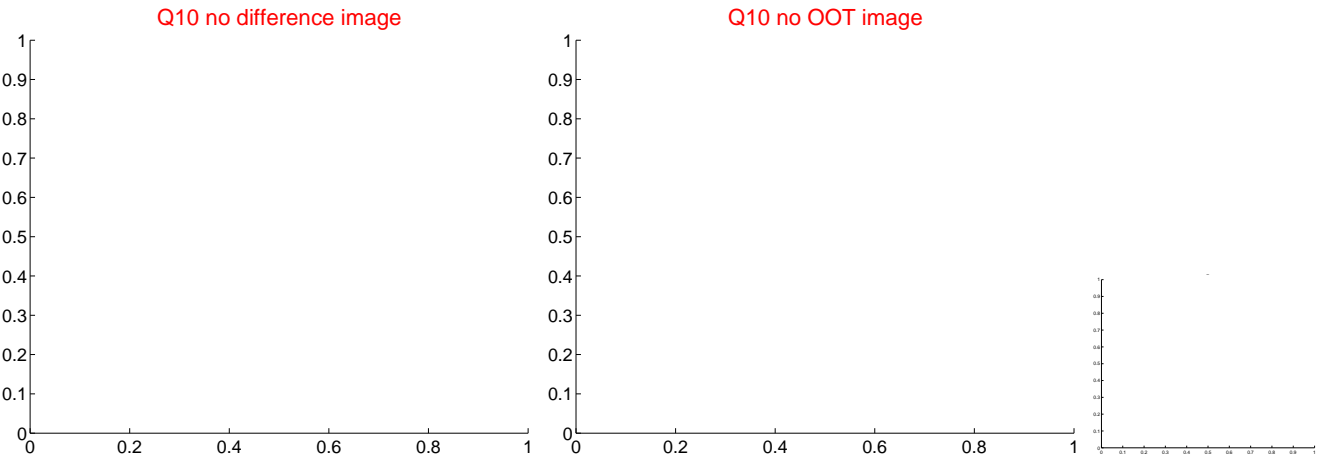
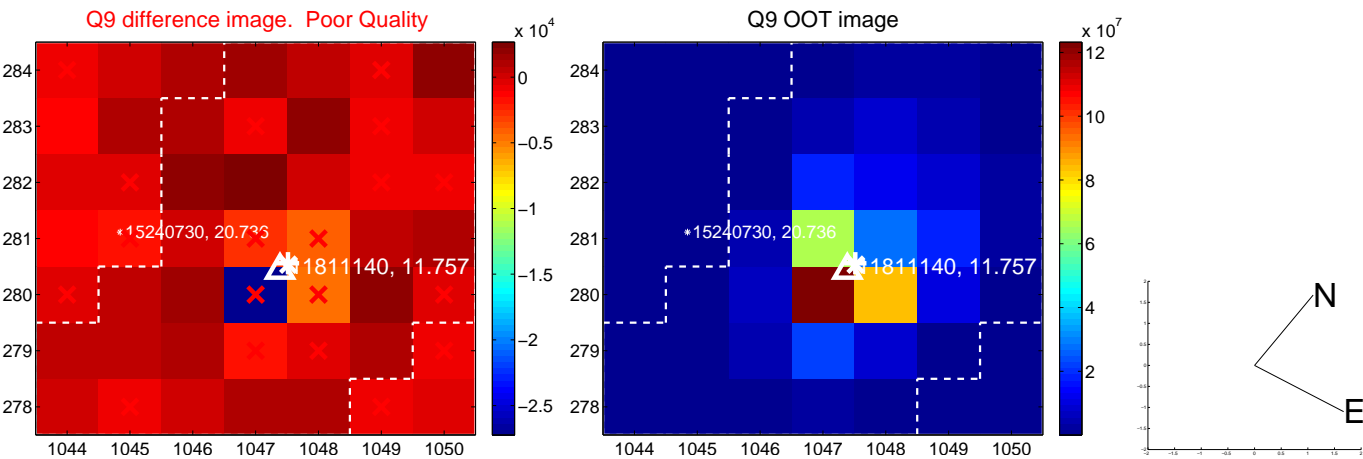
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



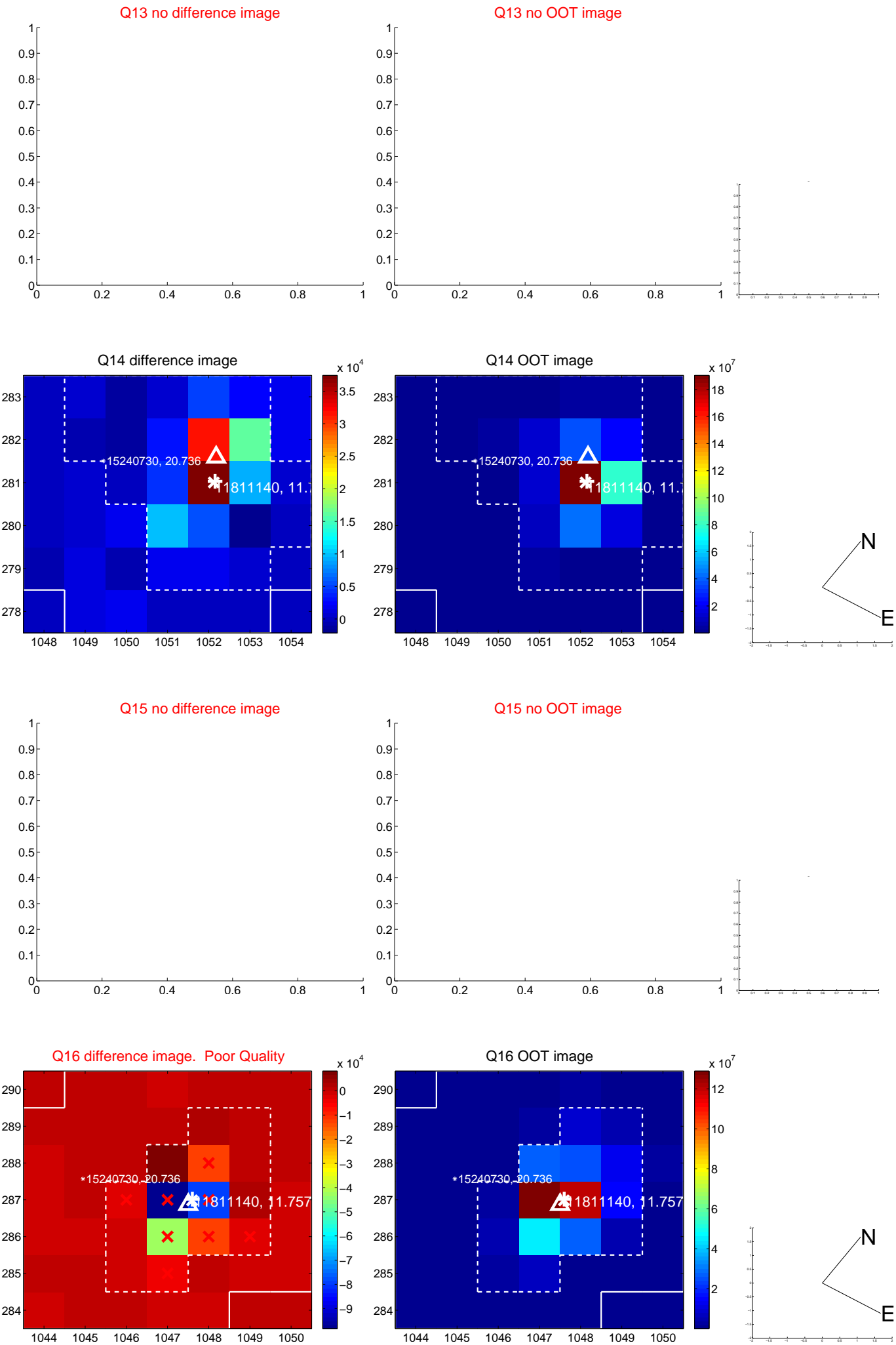
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



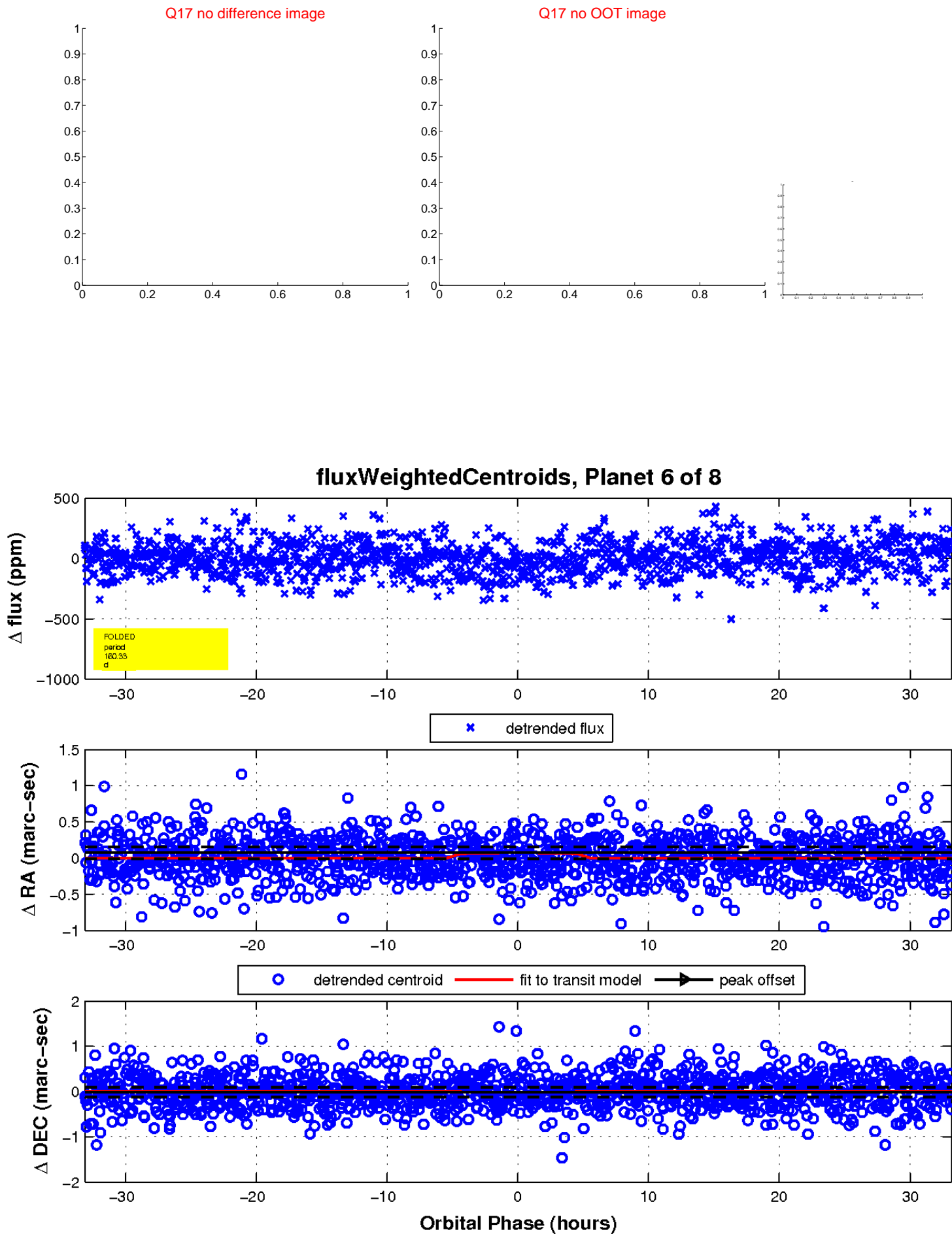
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

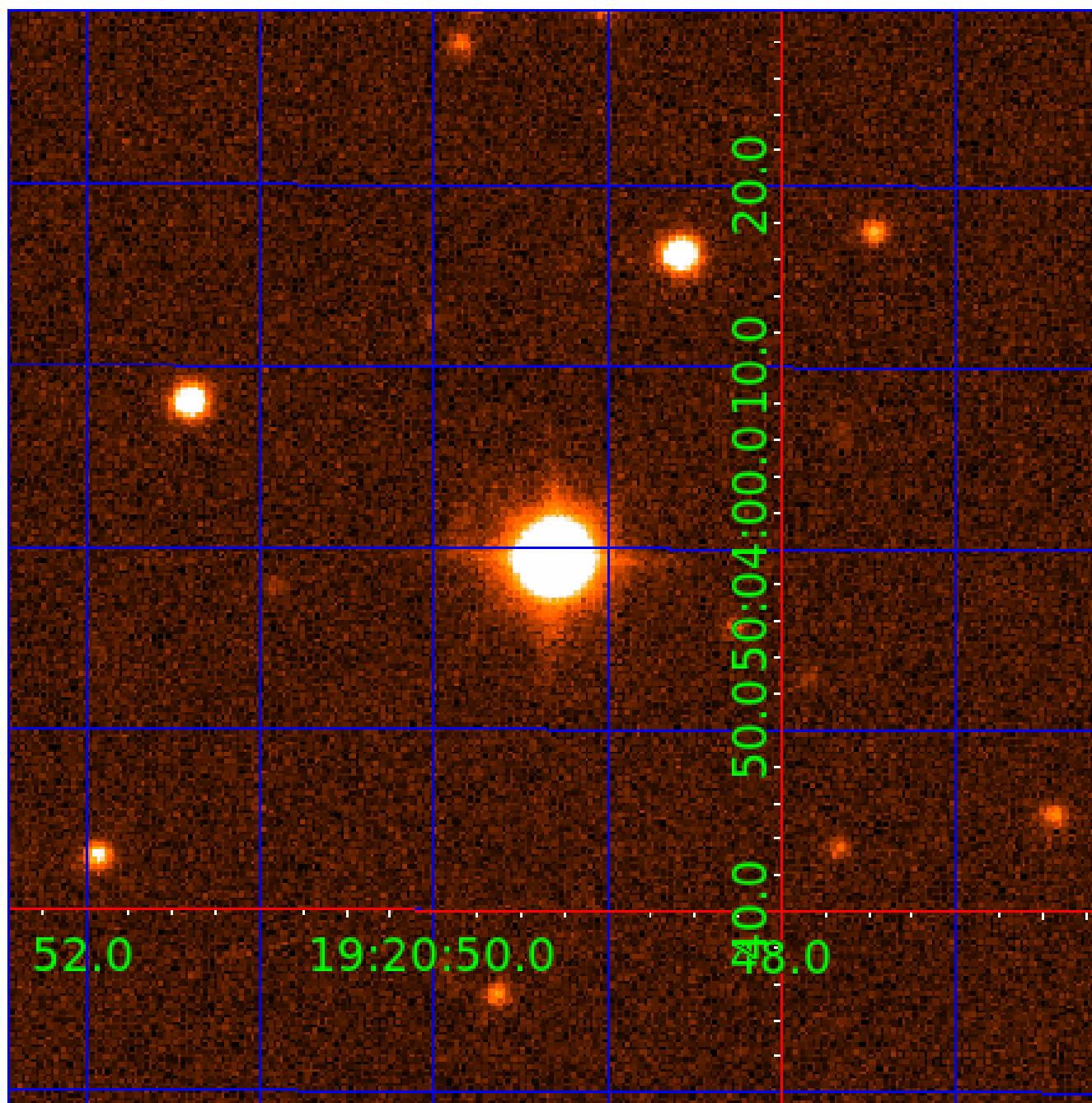


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011811140

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})
011811140-01	OBS	No	0.807258	132.027011	18.8	4.414	9.4	10.7	3.66	7076	1.68	67675.13
011811140-02	OBS	No	111.100730	216.201662	225.8	3.240	8.9	8.8	3.66	7076	6.00	95.24
011811140-03	OBS	No	110.664599	224.510088	203.6	2.456	8.8	8.4	3.66	7076	5.93	95.74
011811140-04	OBS	No	142.663359	218.297691	294.8	1.797	8.7	7.6	3.66	7076	6.82	68.24
011811140-05	OBS	No	83.860304	199.528002	210.3	3.341	8.4	8.4	3.66	7076	5.99	138.58
011811140-06	OBS	No	160.333575	211.811004	217.9	11.065	7.8	9.1	3.66	7076	6.43	58.40
011811140-07	OBS	No	139.061696	200.981521	275.9	1.868	7.9	8.2	3.66	7076	7.07	70.61
011811140-08	OBS	No	104.873512	149.632424	185.2	8.082	7.8	8.2	3.66	7076	6.38	102.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011811140-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
011811140-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
011811140-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011811140-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011811140-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

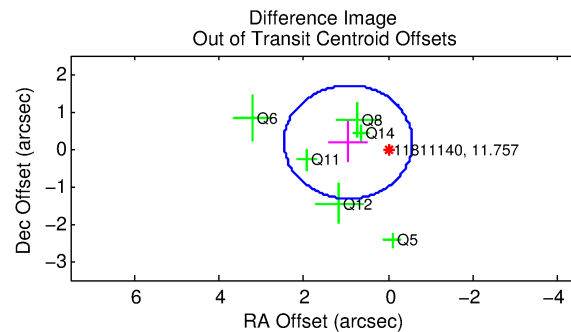
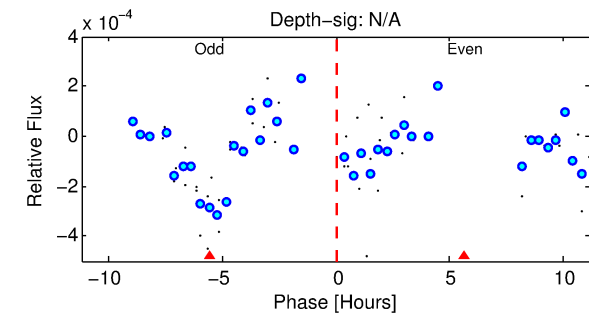
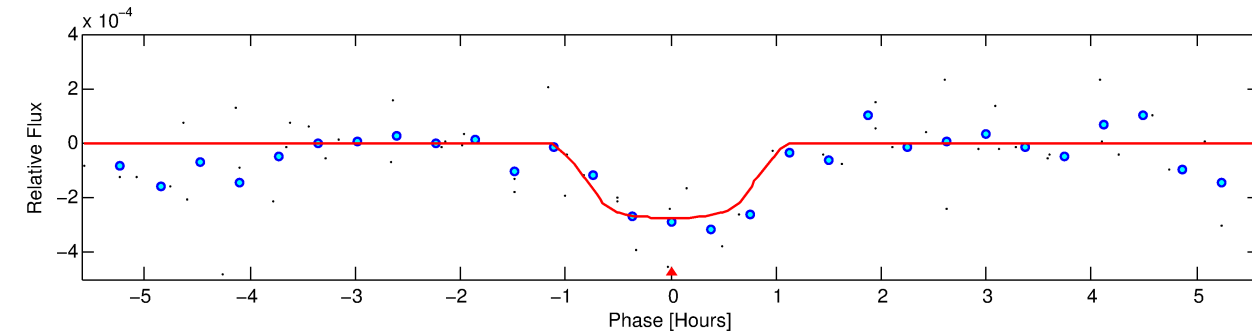
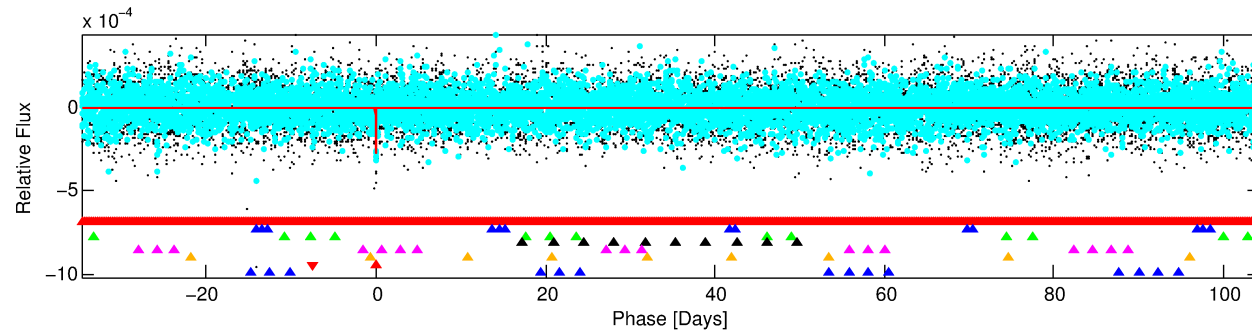
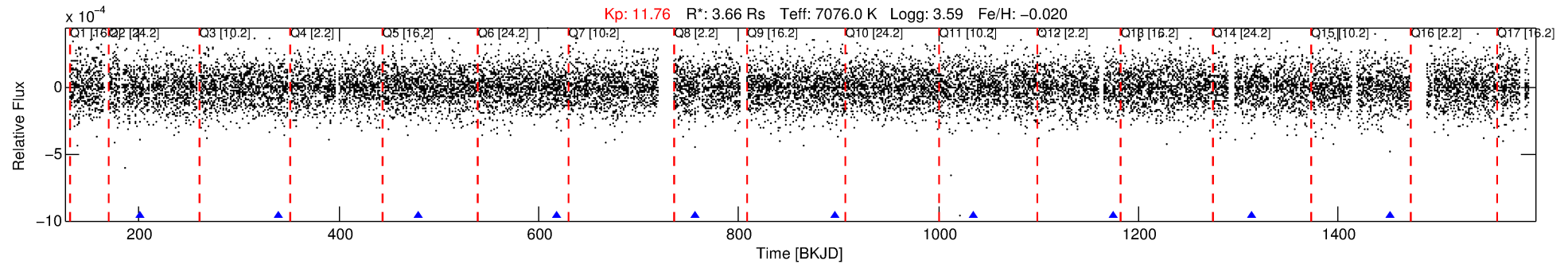
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011811140-07

No Significant Match Found

DV One-Page Summary

KIC: 11811140 Candidate: 7 of 8 Period: 139.062 d



DV Fit Results:

Period = 139.06170 [0.00118] d
Epoch = 200.9815 [0.0077] BKJD
Rp/R* = 0.0177 [0.0210]
a/R* = 270.28 [1990.40]
b = 0.90 [1.57]
Seff = 70.60 [40.22]
Teq = 739 [105] K
Rp = 7.07 [8.75] Re
a = 0.6530 [0.2250] AU
Ag = 863.63 [2111.36] [0.41] σ
Teffp = 6195 [3695] K [1.48] σ

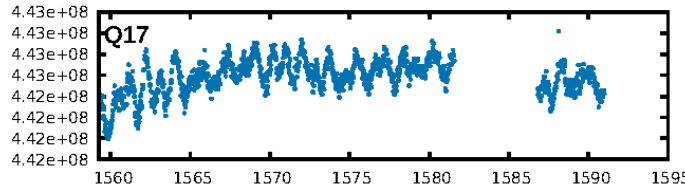
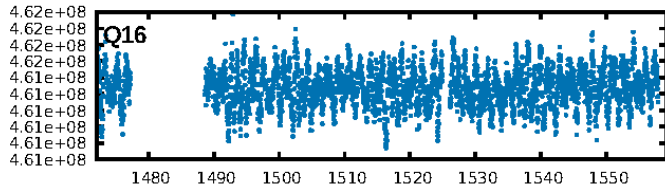
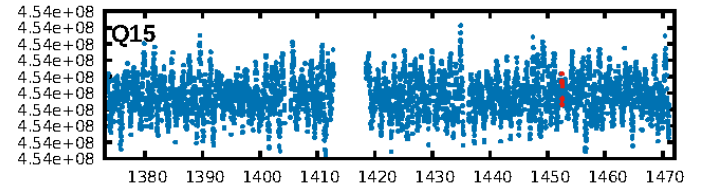
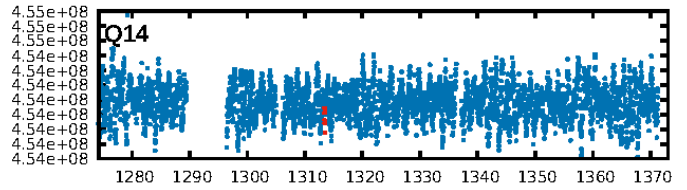
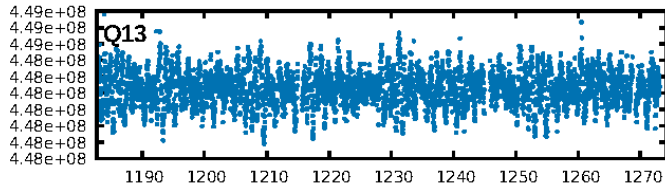
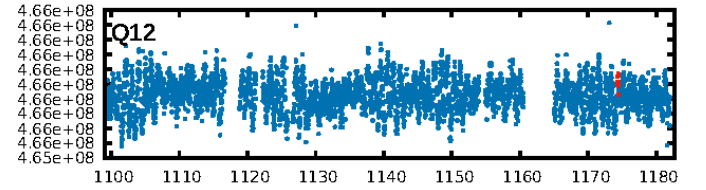
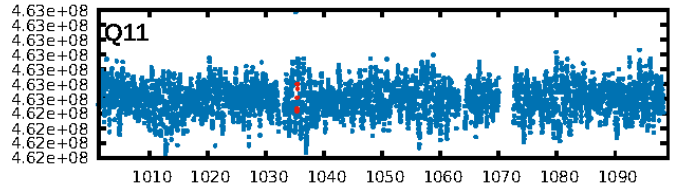
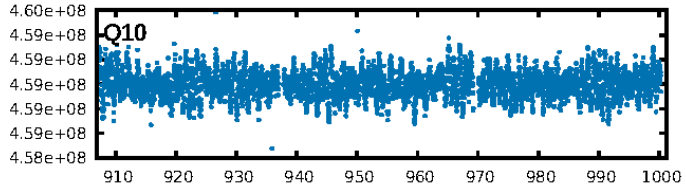
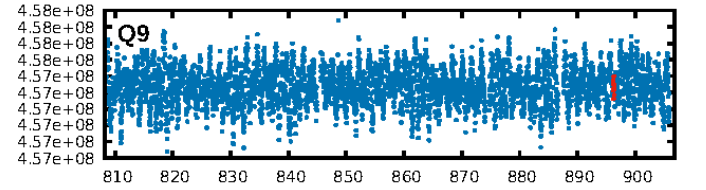
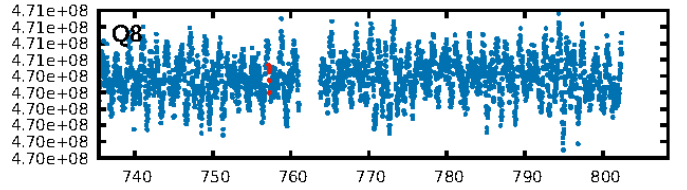
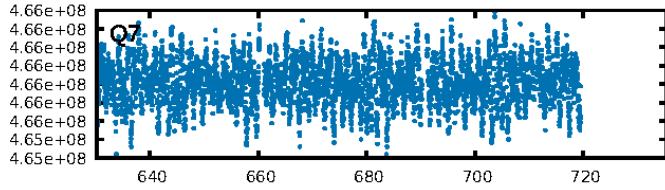
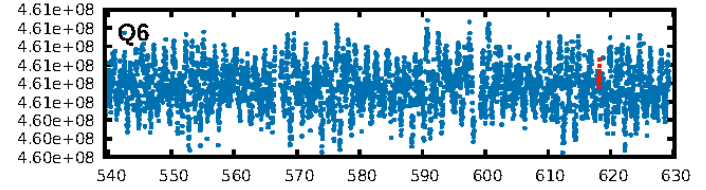
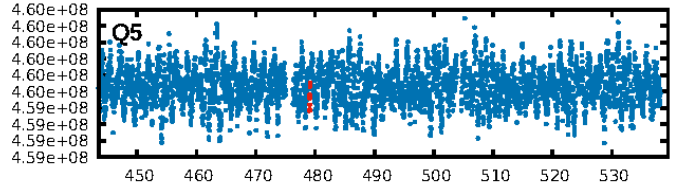
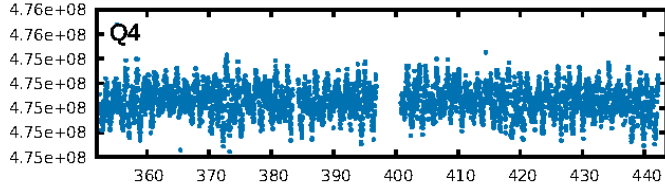
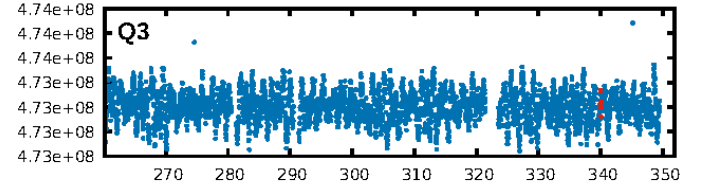
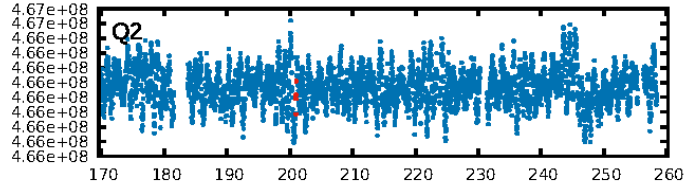
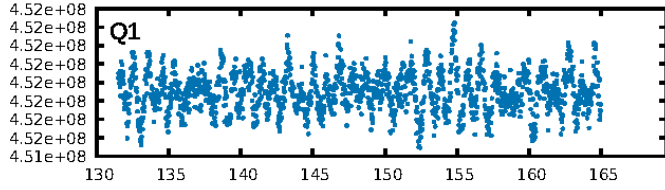
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [179.44] σ
LongPeriod-sig: 100.0% [33.35] σ
ModelChiSquare2-sig: 82.6%
ModelChiSquareGof-sig: 84.6%
Bootstrap-pfa: 4.31e-08
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 2.276
Centroid-sig: 16.4%
Centroid-so: 0.638 arcsec [1.19] σ
OotOffset-rm: 0.961 arcsec [1.91] σ
OotOffset-st: 2/1/2/1 [6]
KicOffset-rm: 0.980 arcsec [1.88] σ
KicOffset-st: 2/1/2/1 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 0.20 [2/10]

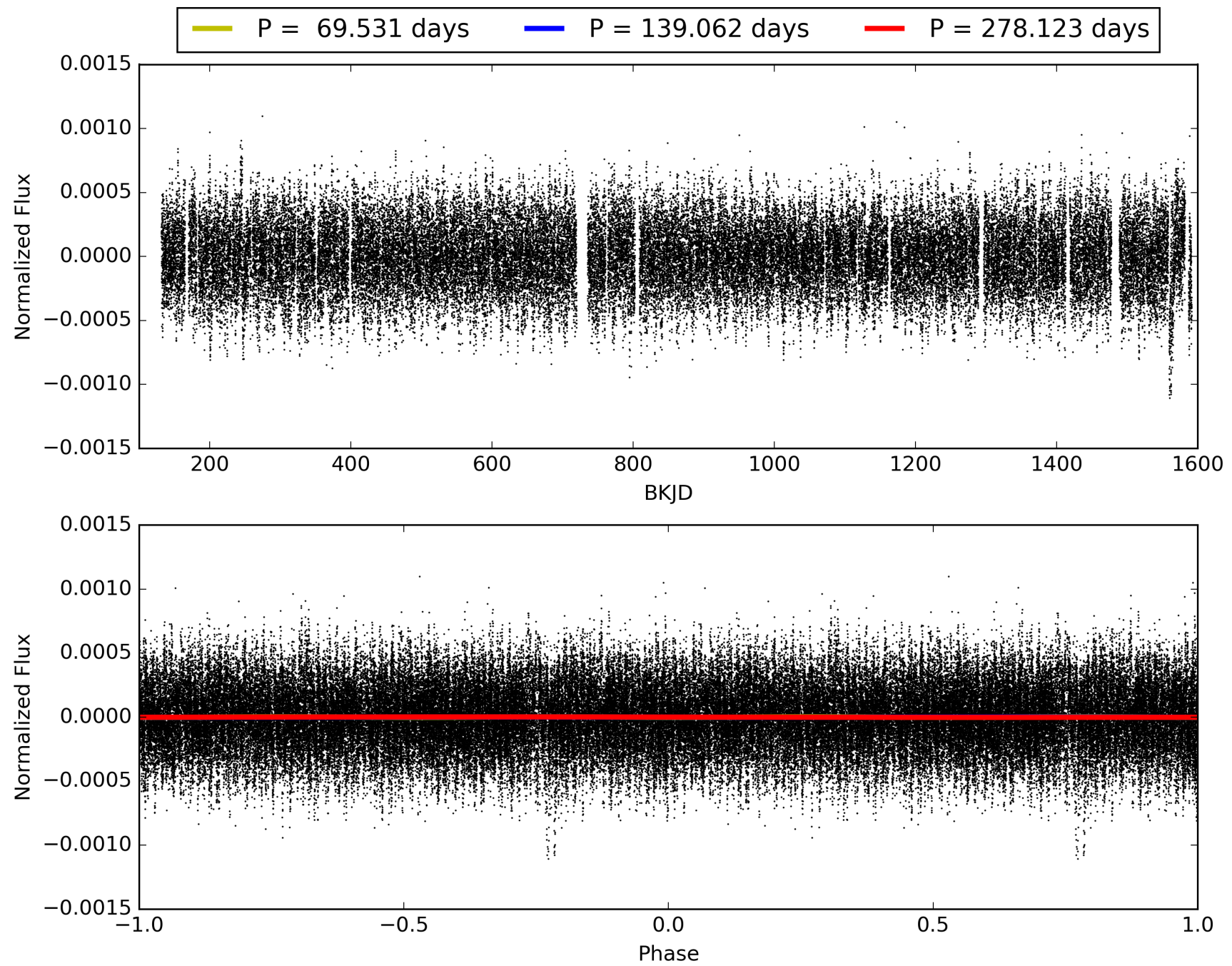
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:06:11 Z

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

TCE 011811140-07, PDC Light Curves

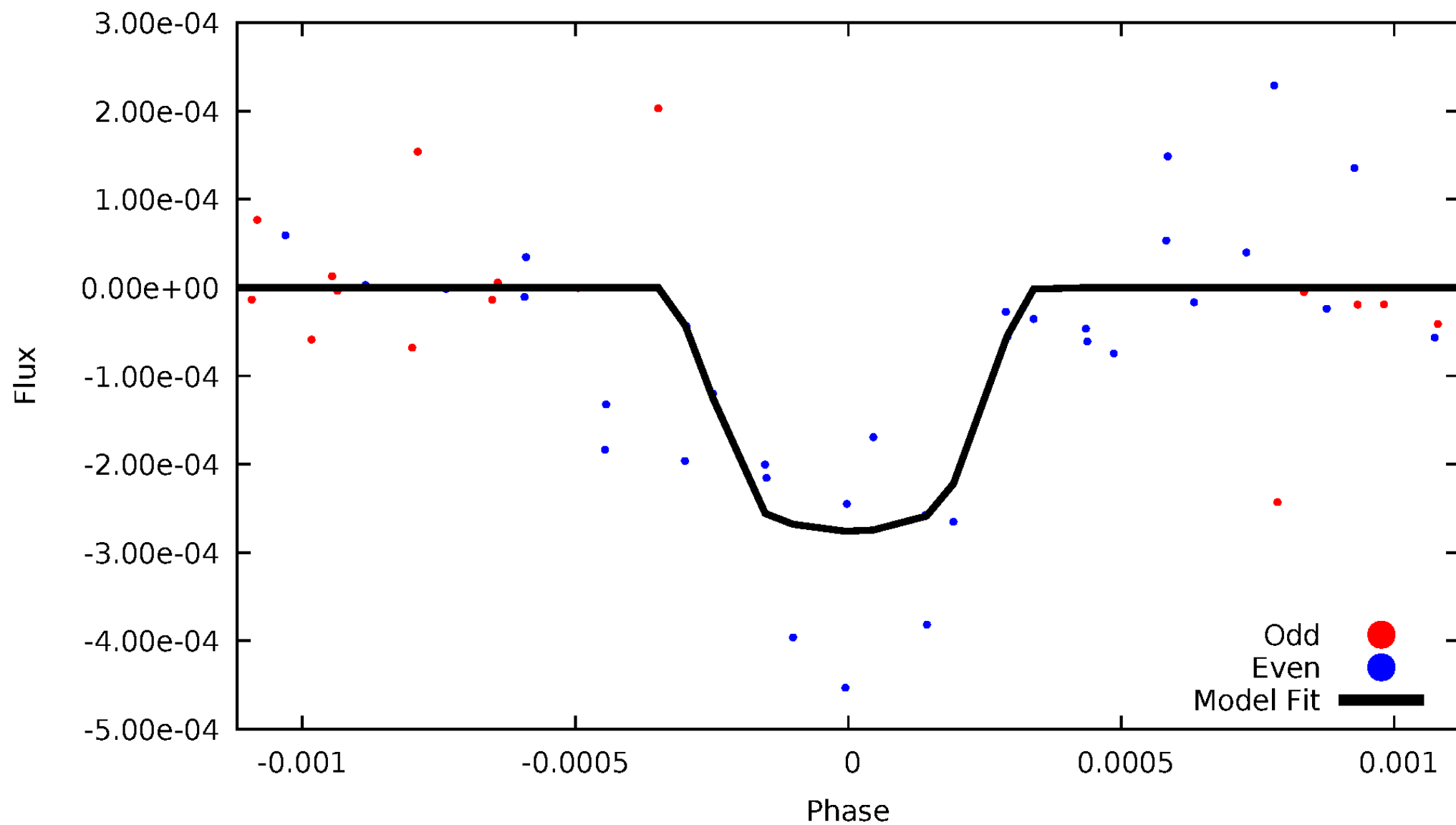


TCE 011811140-07



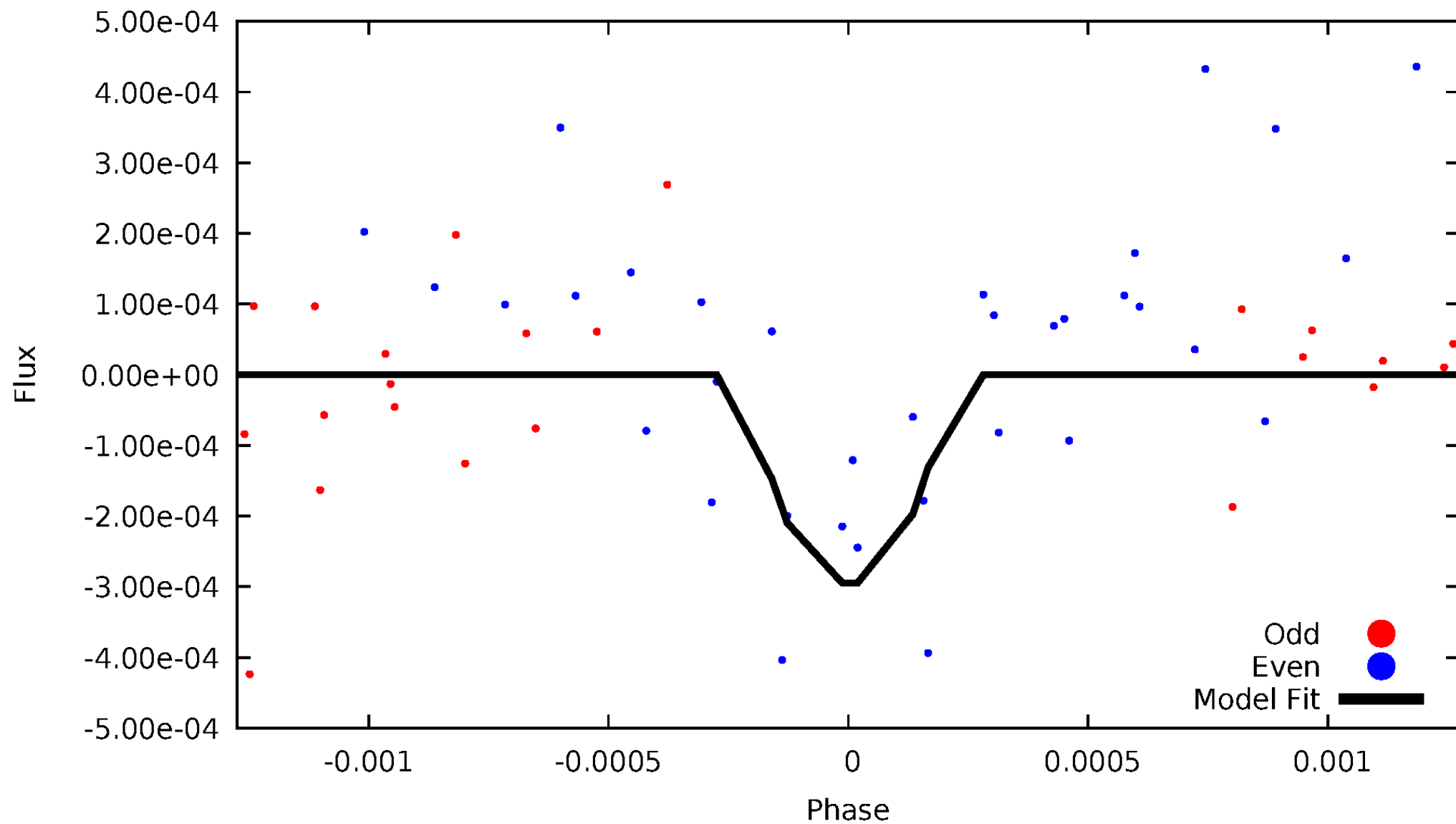
DV Odd/Even

TCE 011811140-07

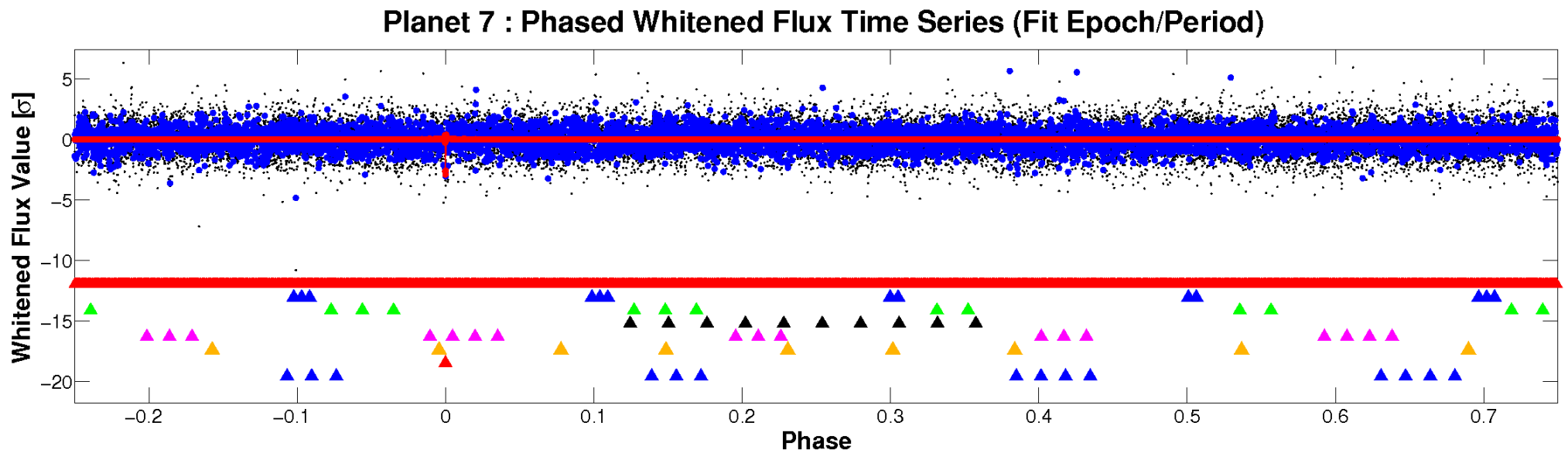
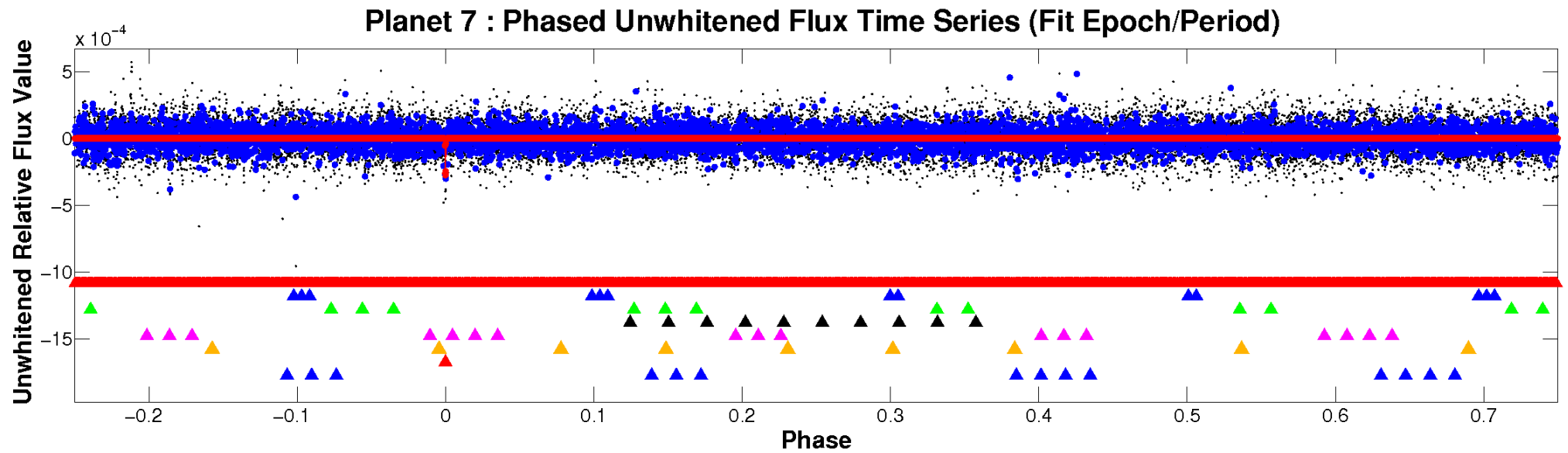


ALT Odd/Even

TCE 011811140-07

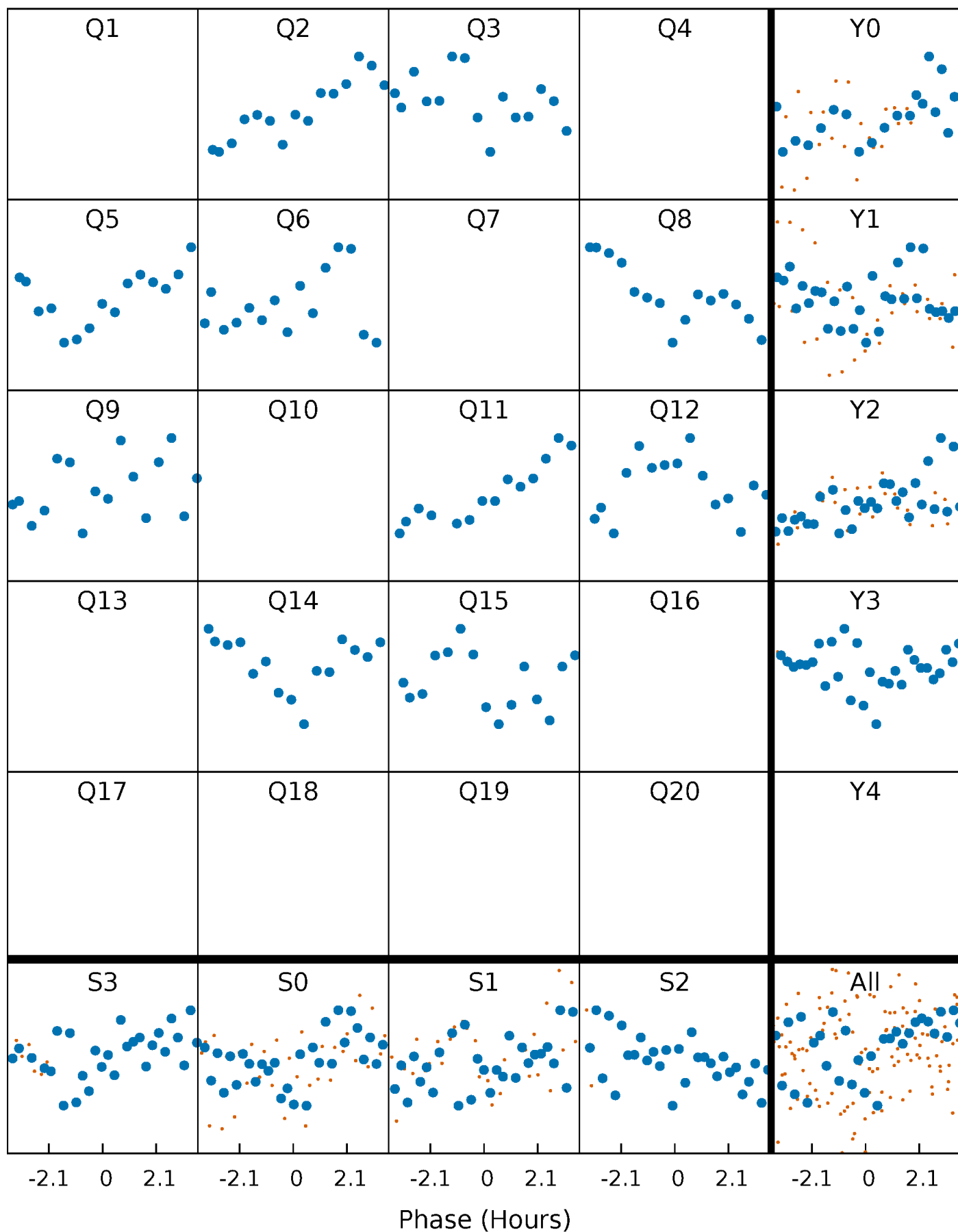


Non-Whitened Vs. Whitened Light Curve



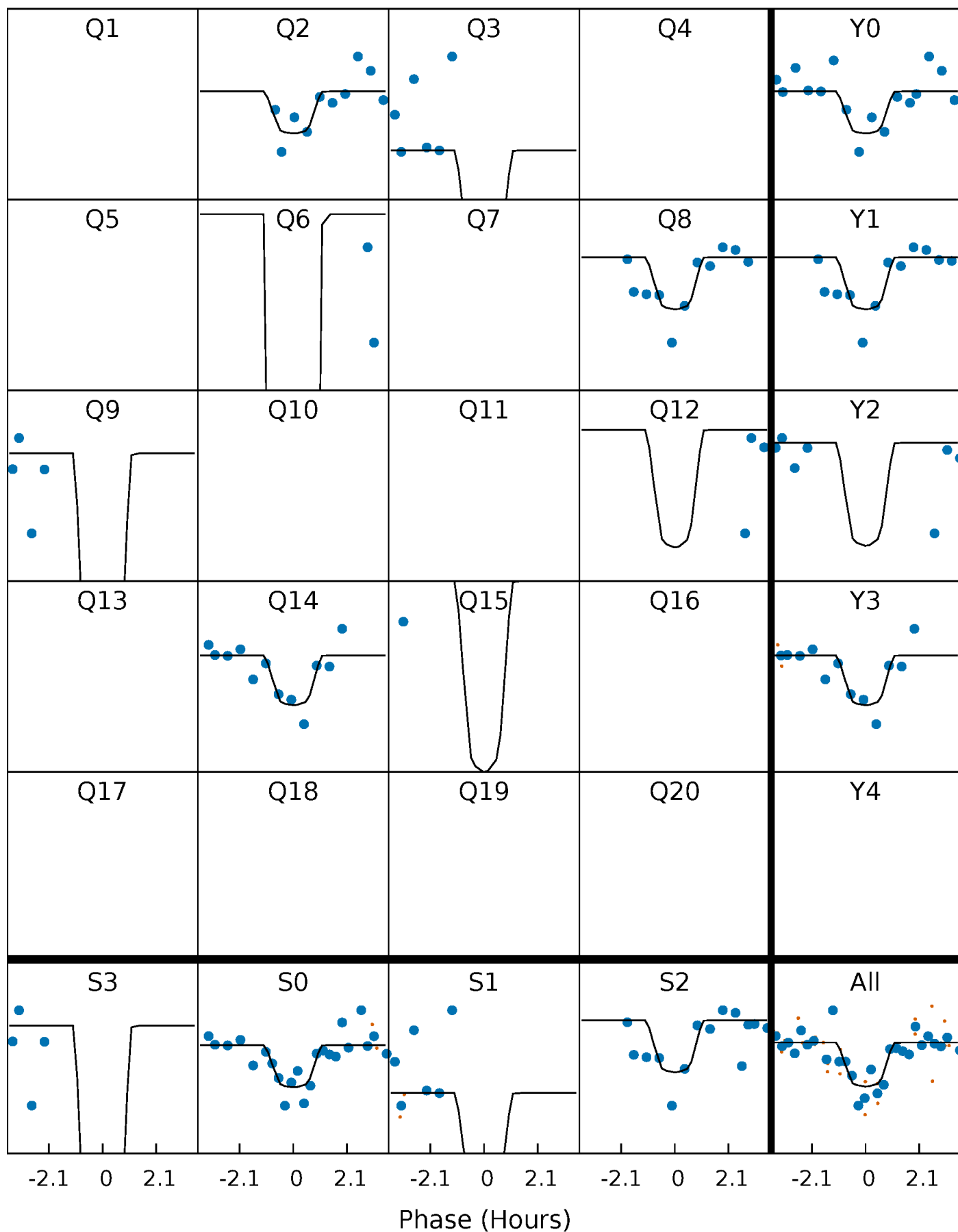
PDC Quarter-Phased Transit Curves

TCE 011811140-07 P=139.061696 Days $T_0=200.981521$ (BKJD)



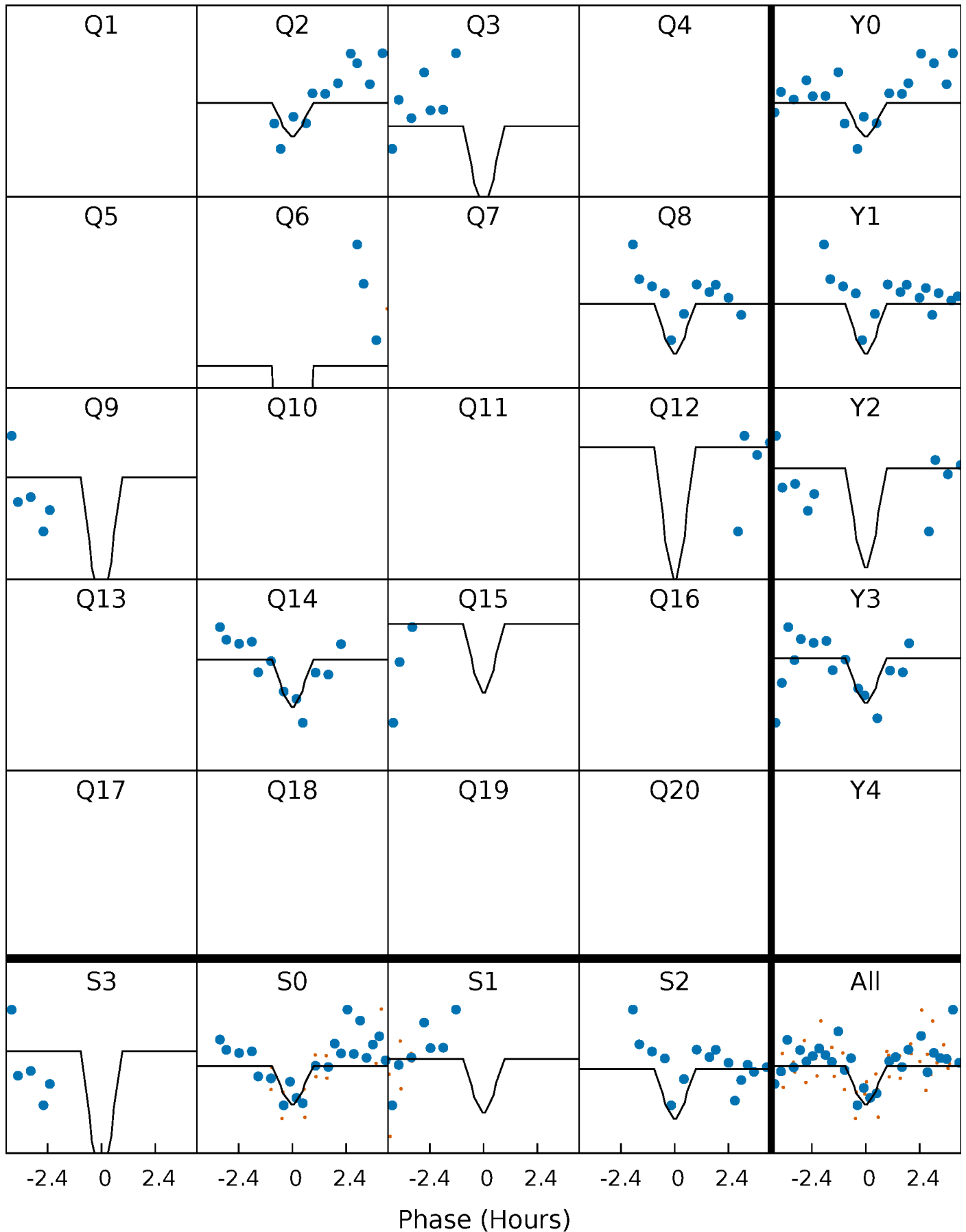
DV Quarter-Phased Transit Curves

TCE 011811140-07 P=139.061696 Days $T_0=200.981521$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

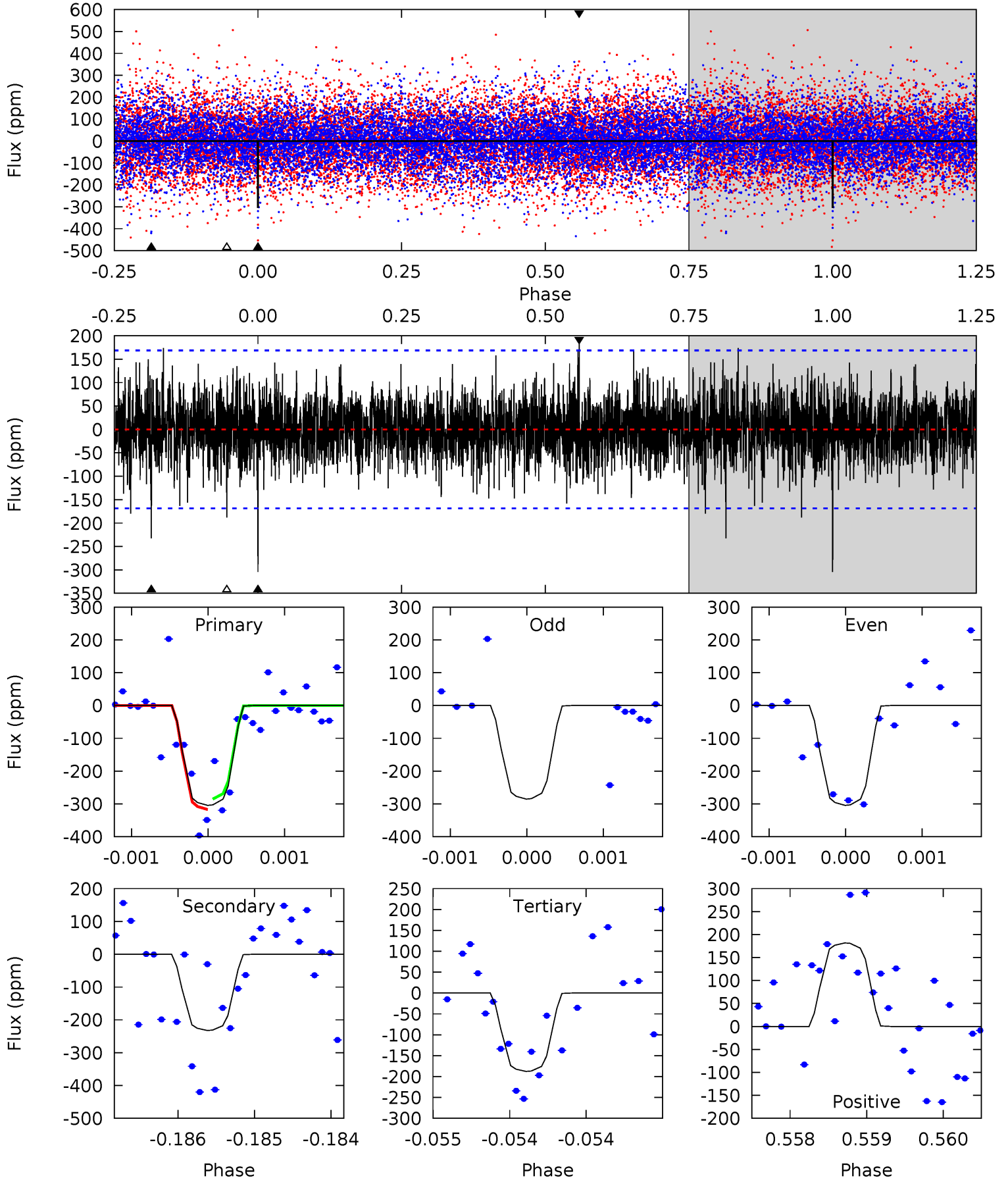
TCE 011811140-07 P=139.060680 Days $T_0=200.986567$ (BKJD)



DV Model-Shift Uniqueness Test

011811140-07, P = 139.061696 Days, E = 61.919825 Days

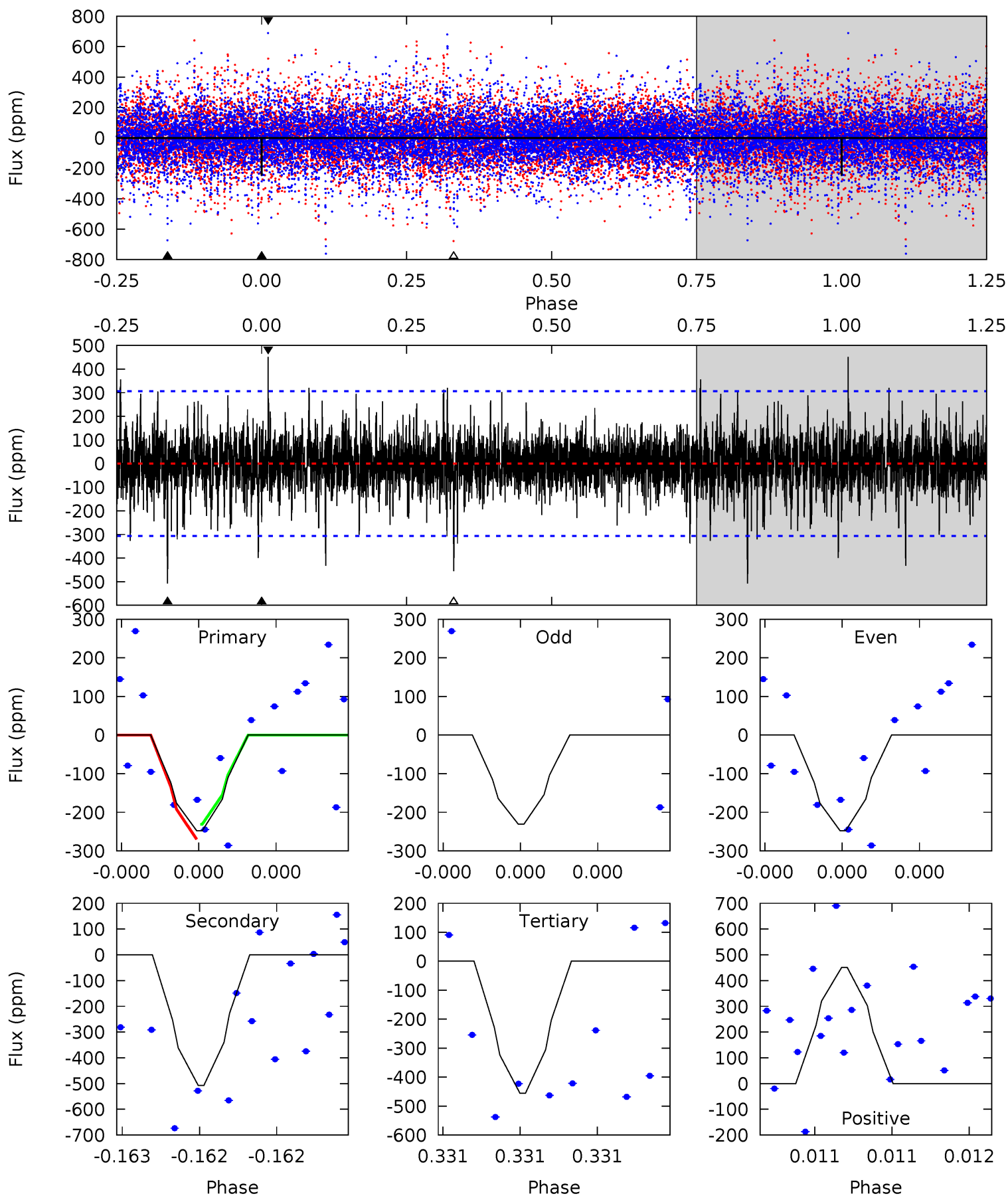
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.94	7.58	6.13	5.94	5.51	3.38	1.55	3.81	4.01	1.46	1.65	0.37	1.03	0.37	0.52



Alt Model-Shift Uniqueness Test

011811140-07, P = 139.060680 Days, E = 61.925887 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.52	9.25	8.30	8.22	5.60	3.51	1.50	-3.79	-3.70	0.95	1.03	0.18	0.88	0.47	0.35



Stellar Parameters For KIC 011811140

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7076^{+168}_{-252}	$3.594^{+0.324}_{-0.054}$	$-0.020^{+0.250}_{-0.250}$	$3.661^{+0.327}_{-1.310}$	$1.919^{+0.155}_{-0.336}$	$0.055^{+0.126}_{-0.010}$
	+2%/-4%	+9%/-2%	+1250%/-1250%	+9%/-36%	+8%/-18%	+228%/-18%
Source	PHO1	FLK73	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 011811140-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-232 ± 31	$8.73^{+7.00}_{-5.52}$	1005^{+52}_{-95}	5573^{+4226}_{-1205}	711^{+4349}_{-496}
Alt.	-507 ± 55	$8.14^{+7.22}_{-5.60}$	1002^{+51}_{-89}	7043^{+11070}_{-1825}	1843^{+17943}_{-1331}

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

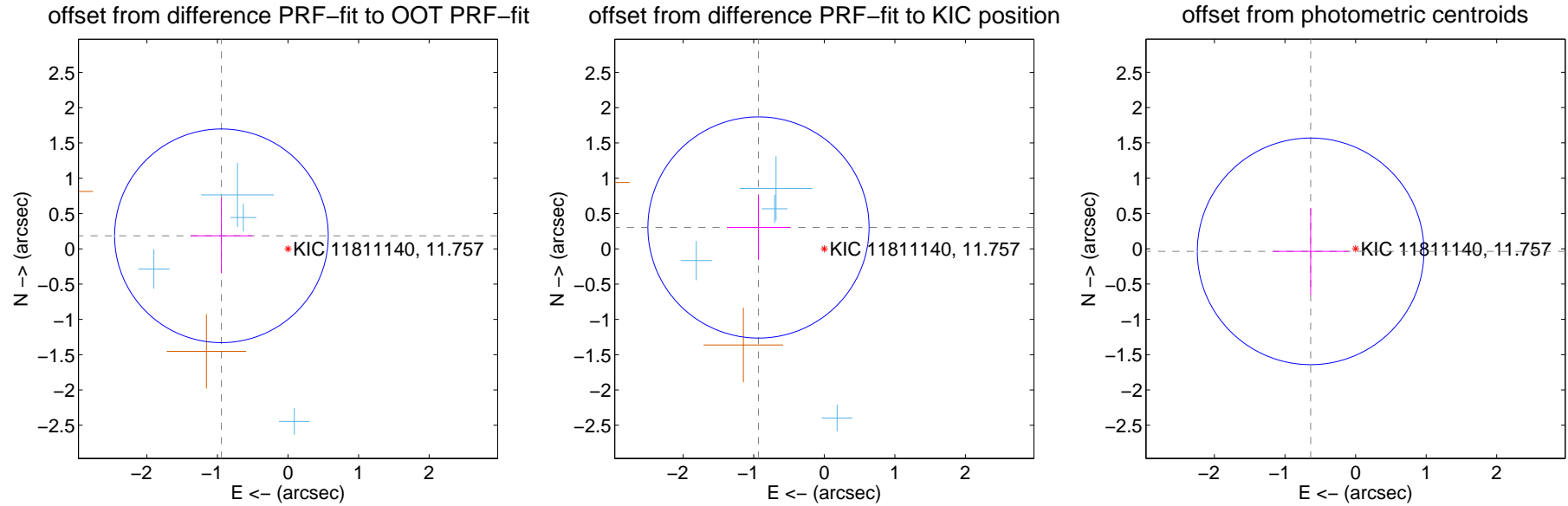
DV Centroid Data

Supplemental centroid analysis for 011811140-07. **Kepler magnitude: 11.76**. Transit SNR 8.25

There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.961 ± 0.505	1.91	0.943 ± 0.437	0.184 ± 0.533
PRF-fit source offset from KIC position	0.980 ± 0.522	1.88	0.932 ± 0.448	0.302 ± 0.457
photometric centroid source offset	0.64 ± 0.53	1.19	0.64 ± 0.53	-0.04 ± 0.61



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

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

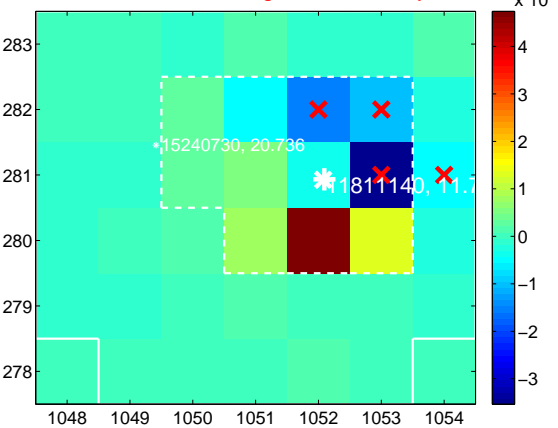
Q1 no difference image



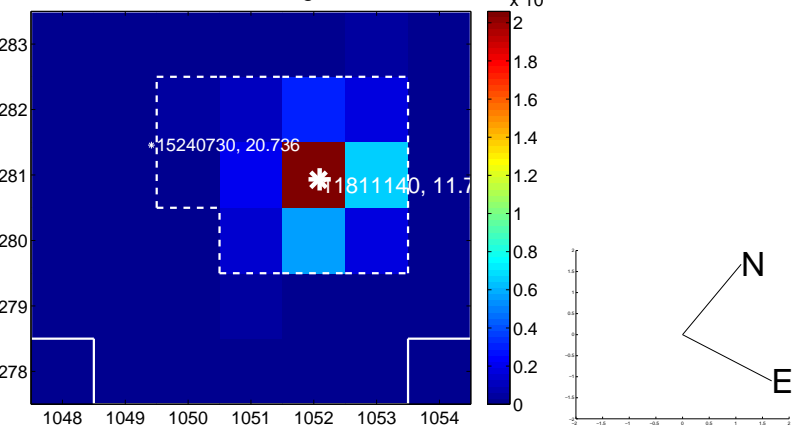
Q1 no OOT image



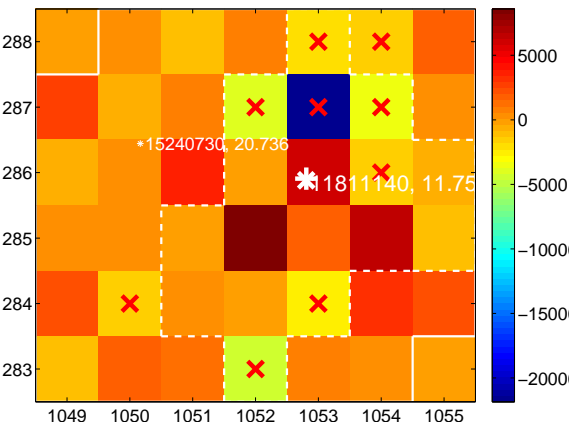
Q2 difference image. Poor Quality



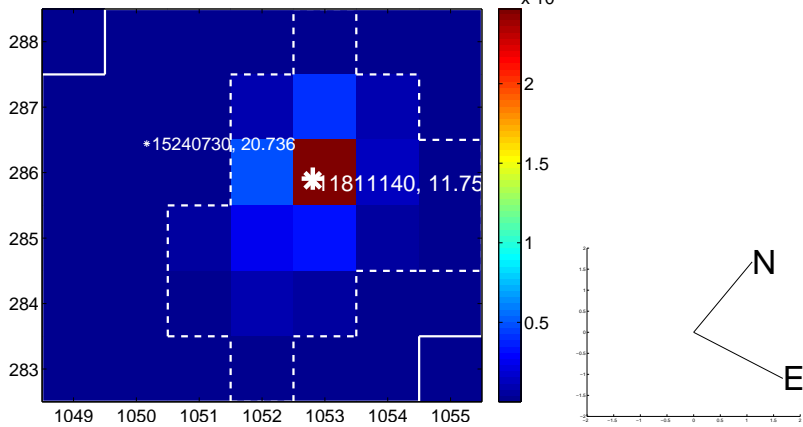
Q2 OOT image



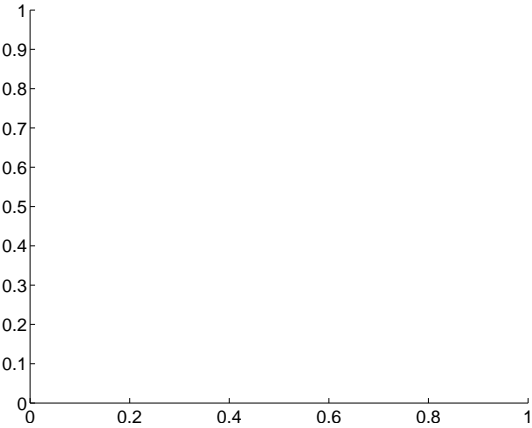
Q3 difference image. Poor Quality



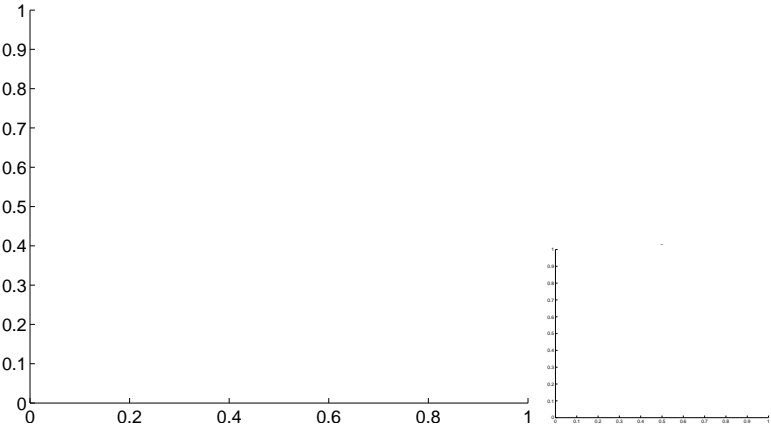
Q3 OOT image



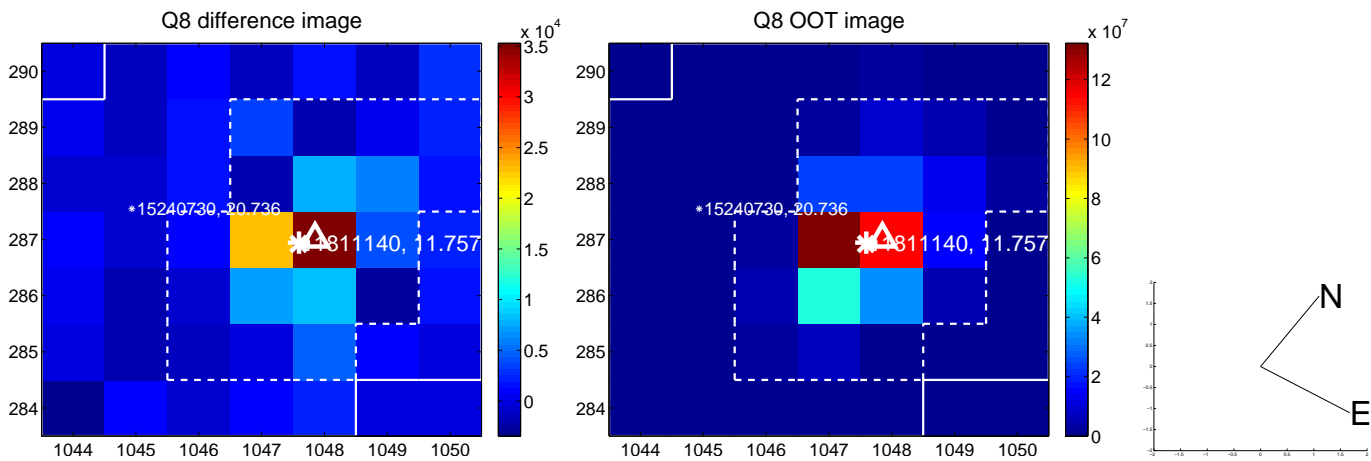
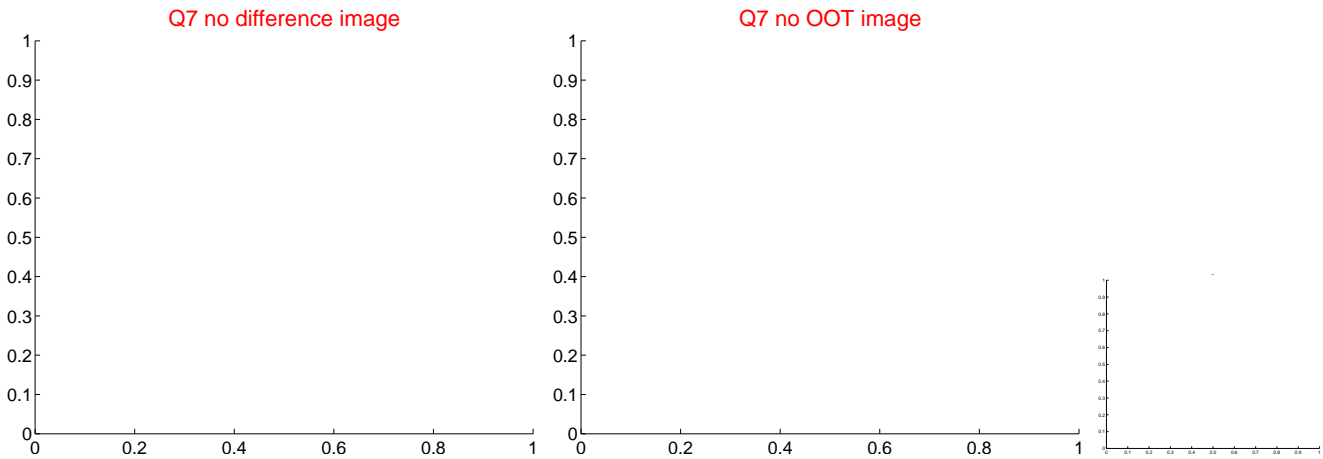
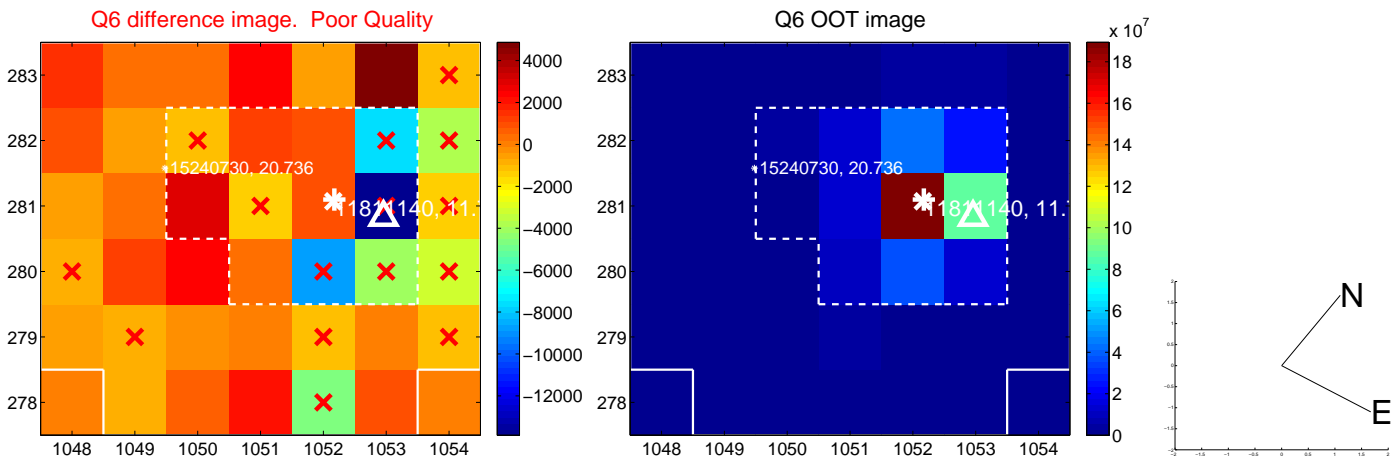
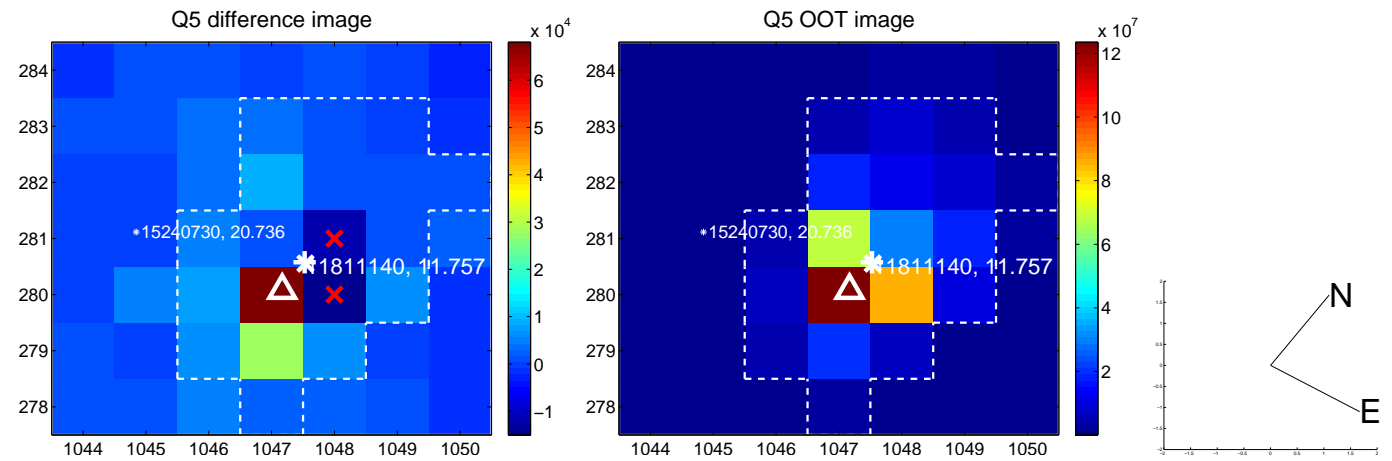
Q4 no difference image



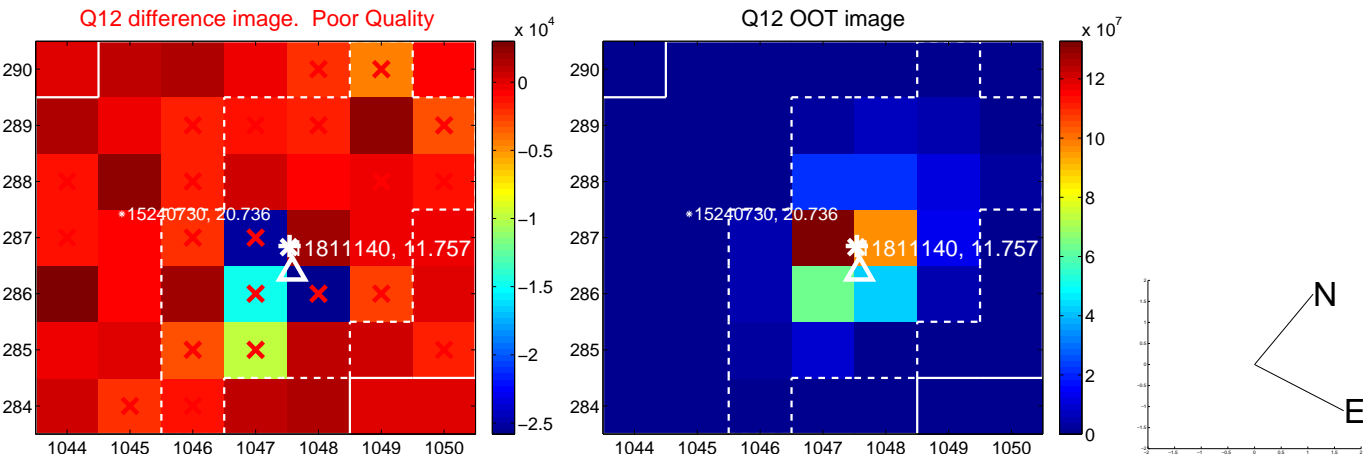
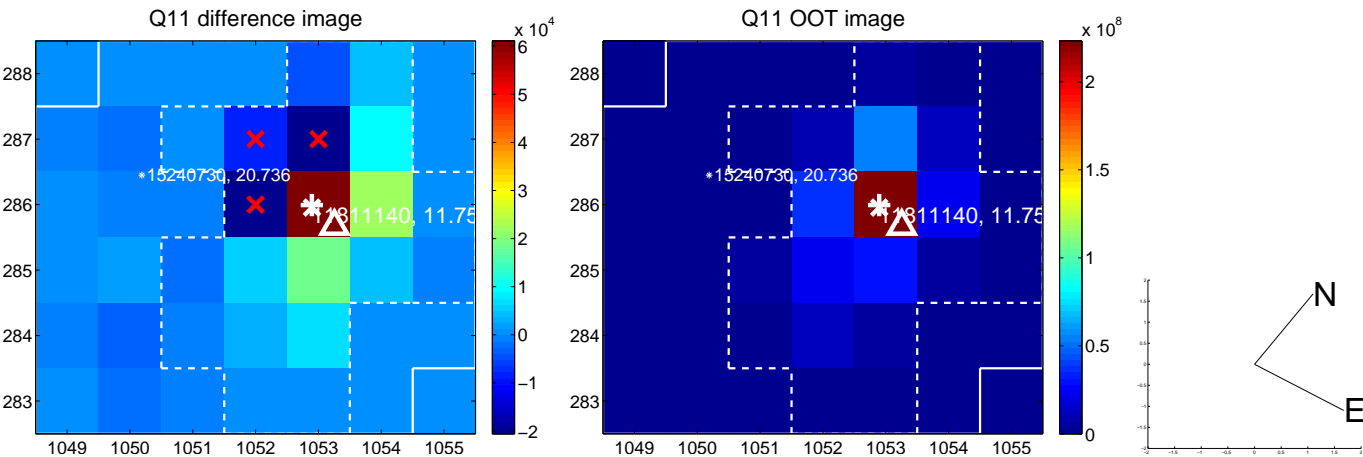
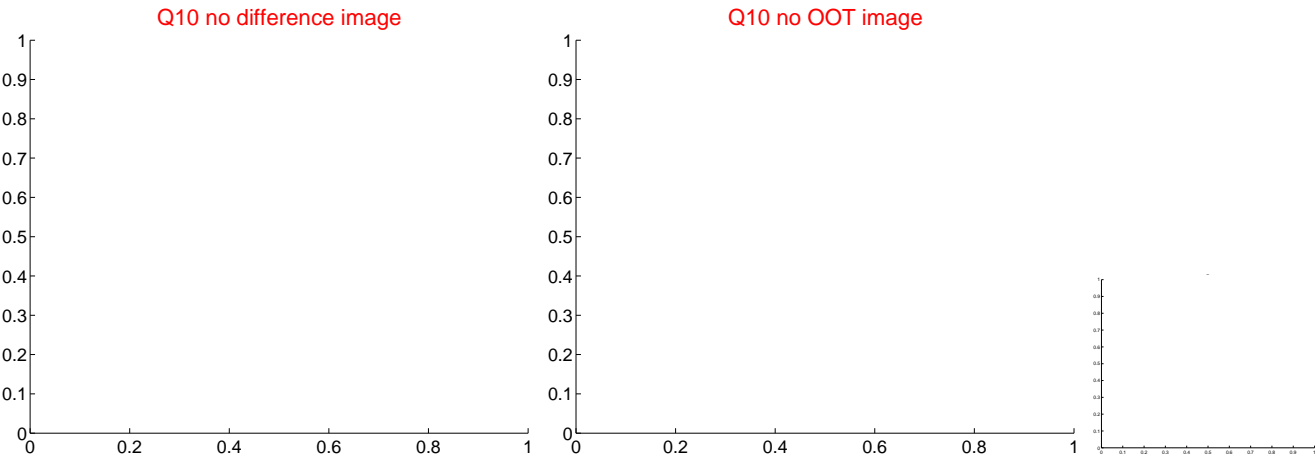
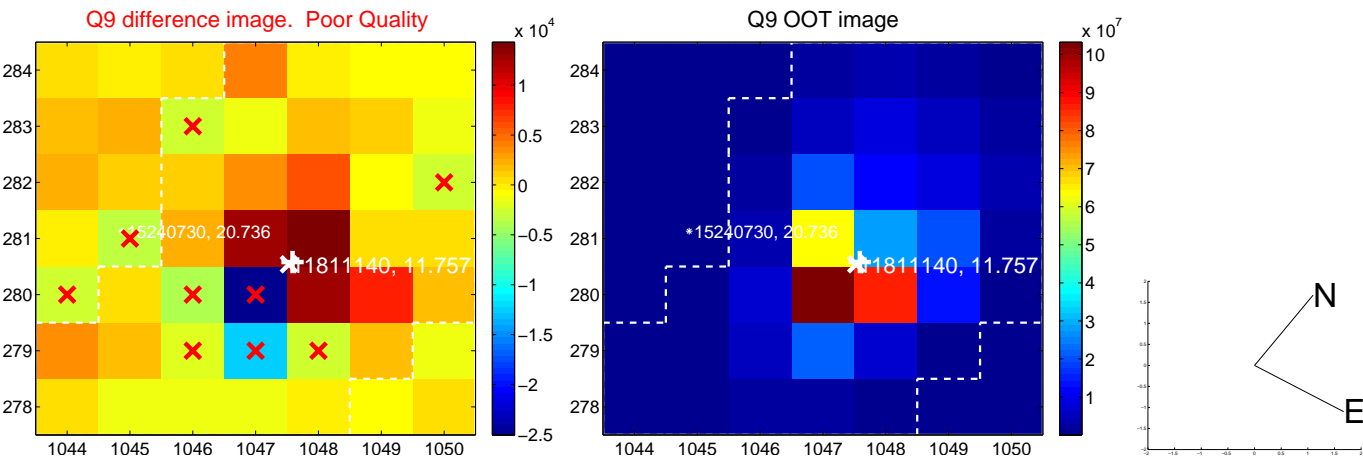
Q4 no OOT image



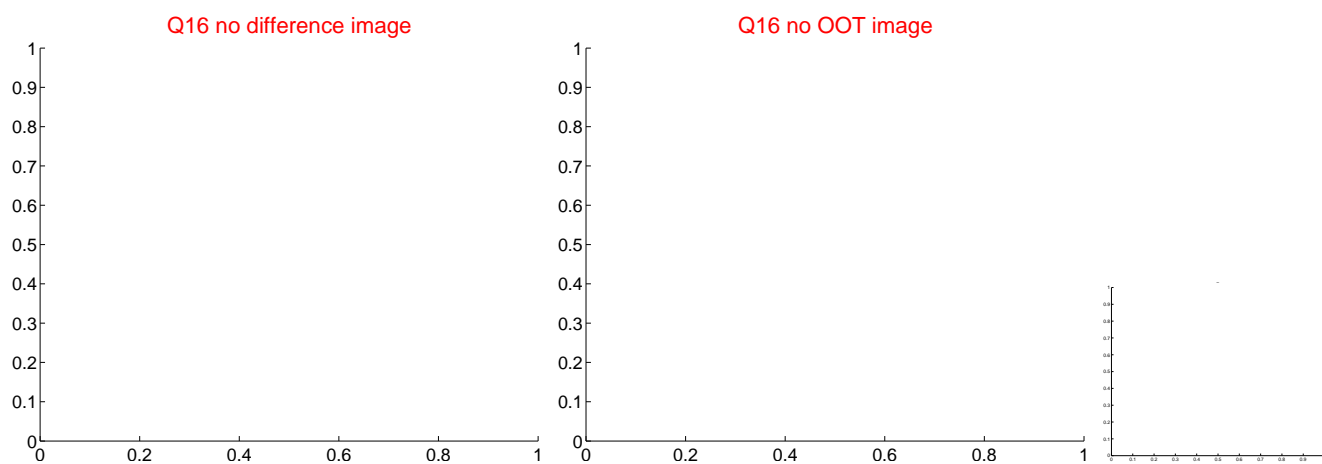
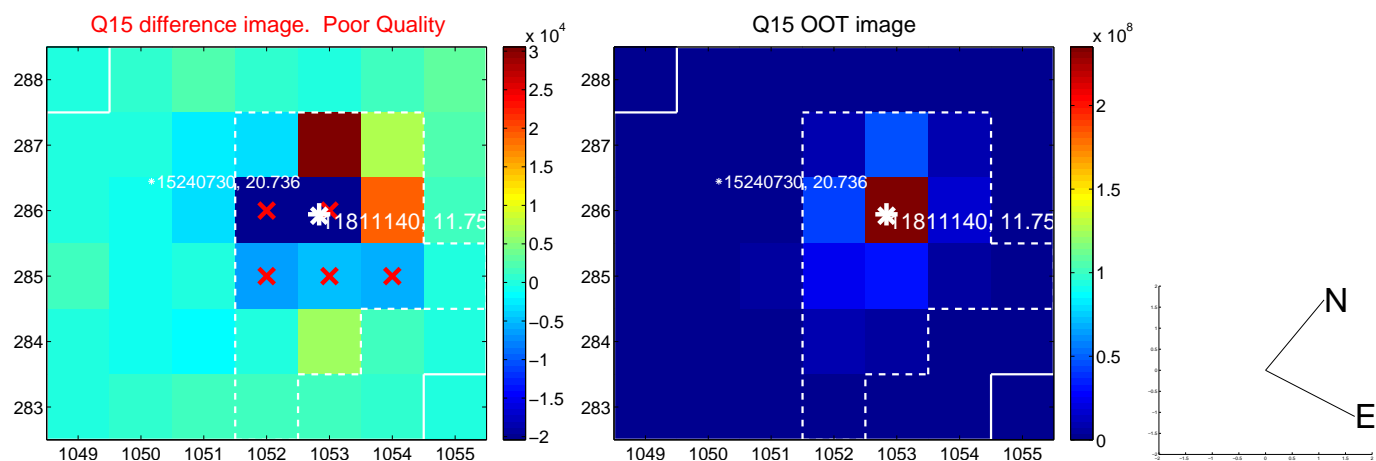
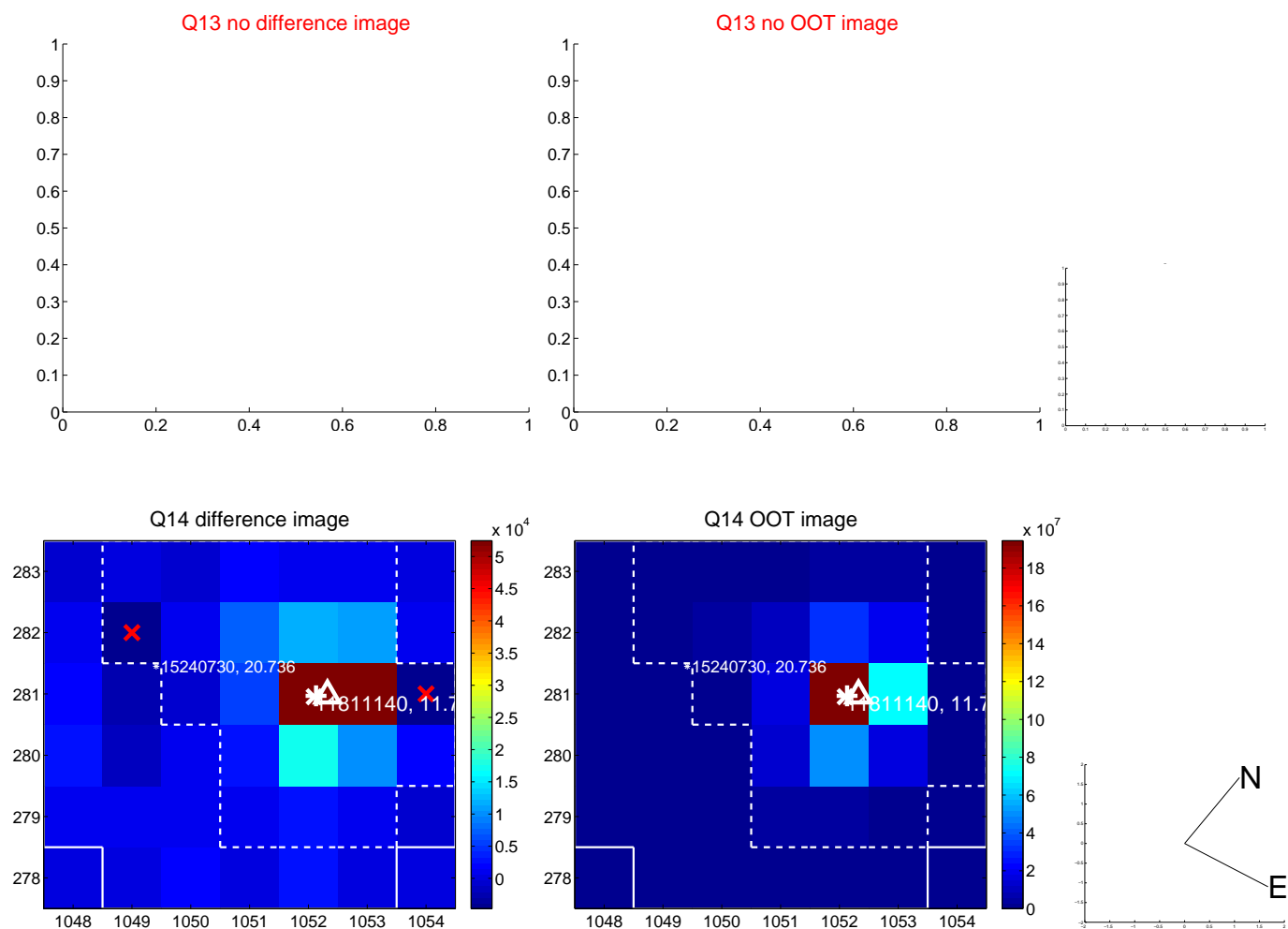
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



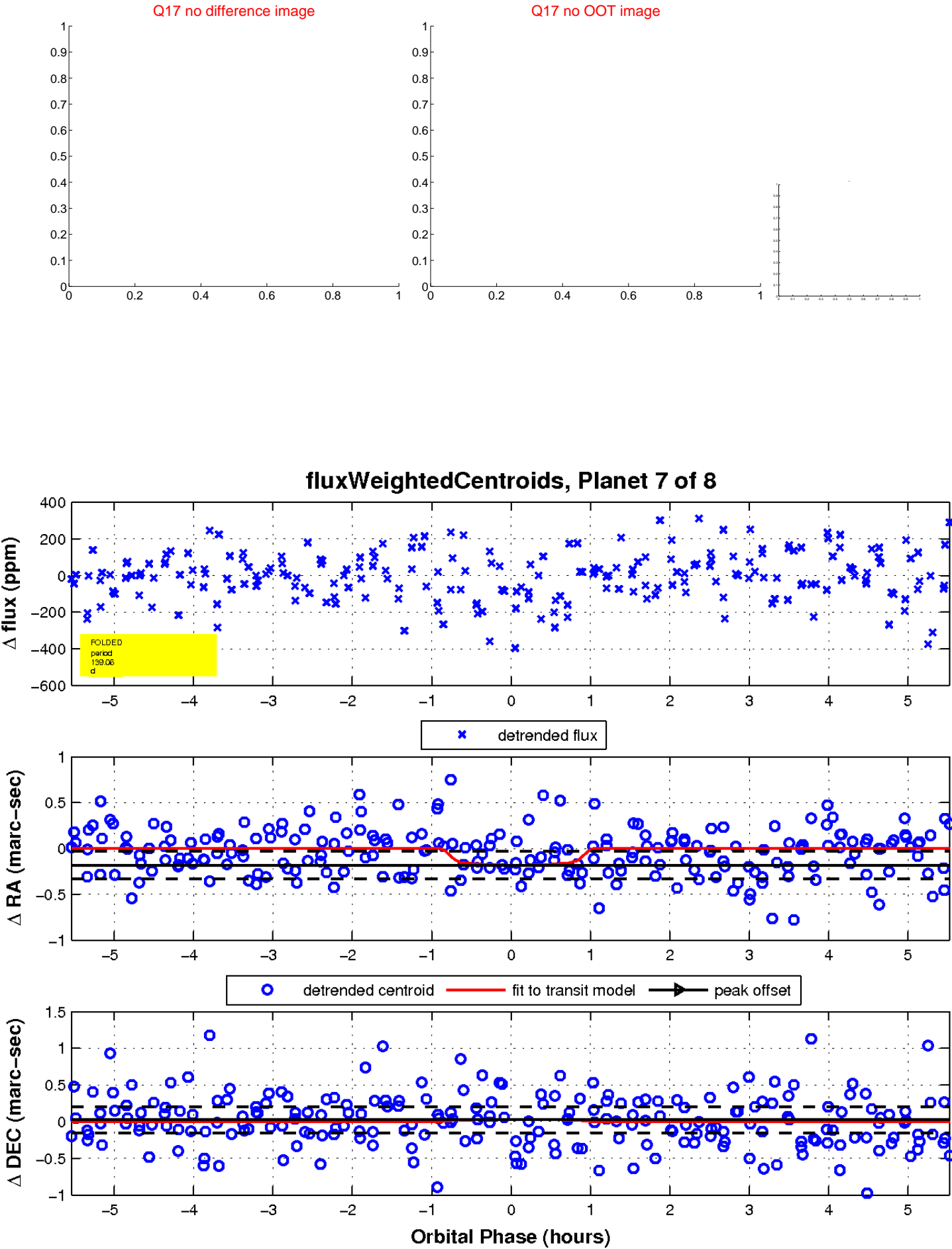
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

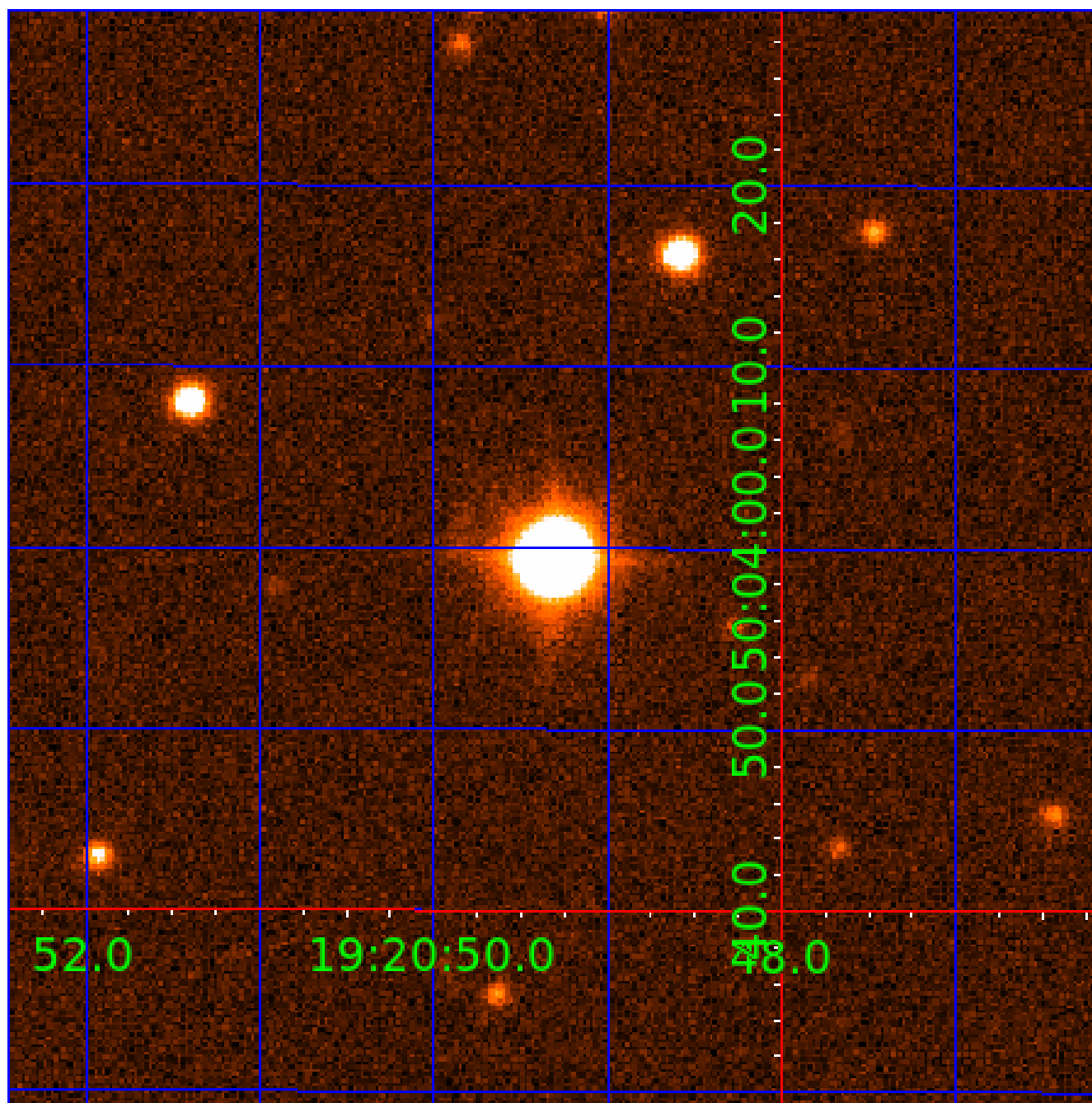


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011811140

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})
011811140-01	OBS	No	0.807258	132.027011	18.8	4.414	9.4	10.7	3.66	7076	1.68	67675.13
011811140-02	OBS	No	111.100730	216.201662	225.8	3.240	8.9	8.8	3.66	7076	6.00	95.24
011811140-03	OBS	No	110.664599	224.510088	203.6	2.456	8.8	8.4	3.66	7076	5.93	95.74
011811140-04	OBS	No	142.663359	218.297691	294.8	1.797	8.7	7.6	3.66	7076	6.82	68.24
011811140-05	OBS	No	83.860304	199.528002	210.3	3.341	8.4	8.4	3.66	7076	5.99	138.58
011811140-06	OBS	No	160.333575	211.811004	217.9	11.065	7.8	9.1	3.66	7076	6.43	58.40
011811140-07	OBS	No	139.061696	200.981521	275.9	1.868	7.9	8.2	3.66	7076	7.07	70.61
011811140-08	OBS	No	104.873512	149.632424	185.2	8.082	7.8	8.2	3.66	7076	6.38	102.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011811140-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
011811140-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
011811140-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011811140-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011811140-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011811140-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

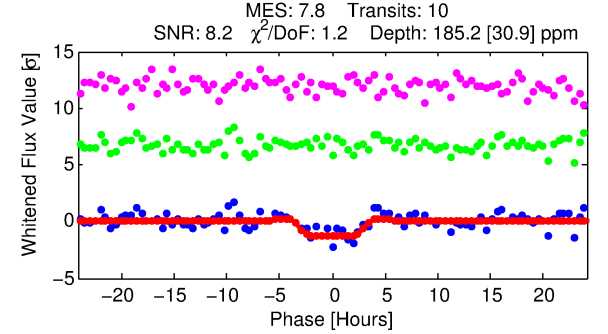
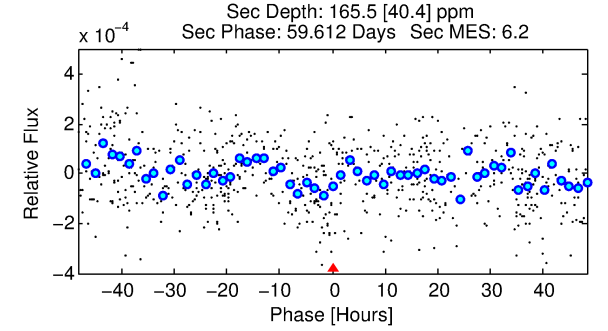
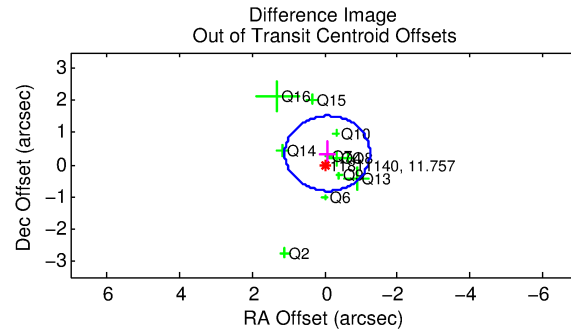
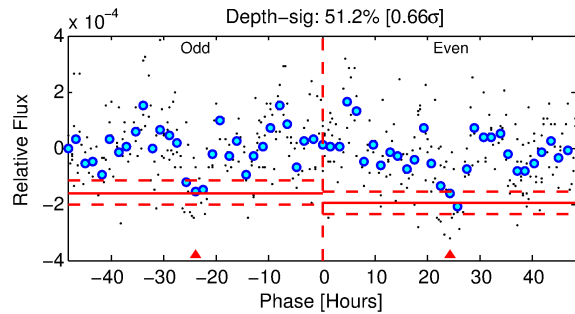
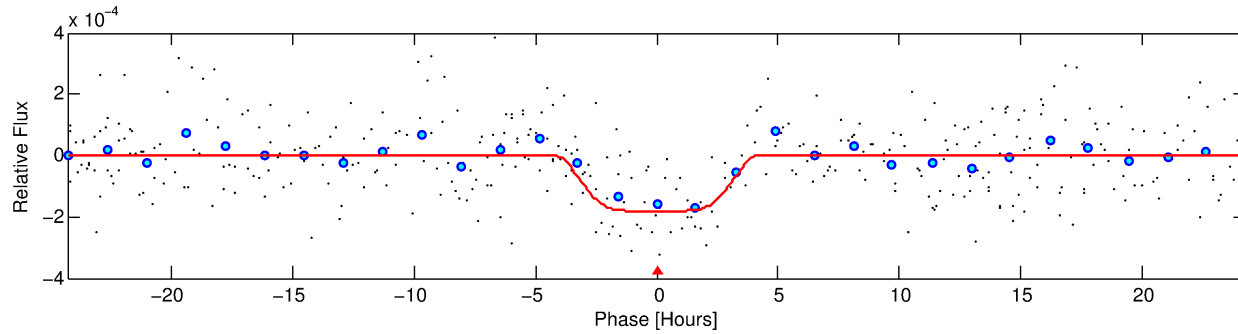
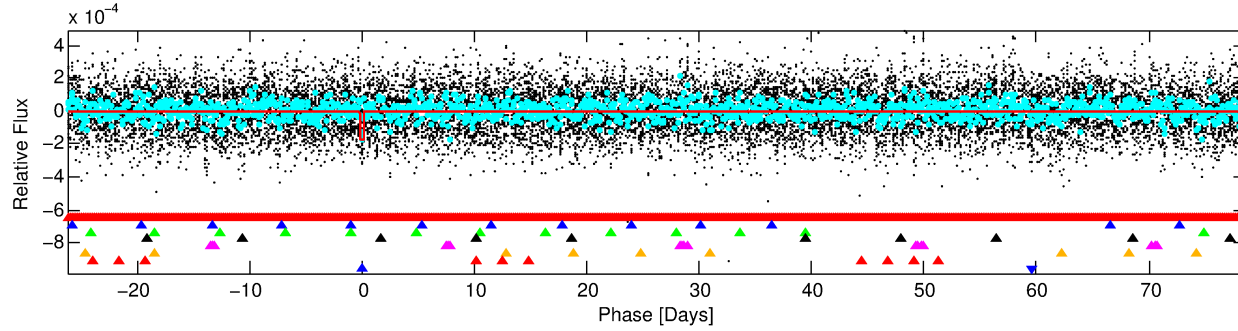
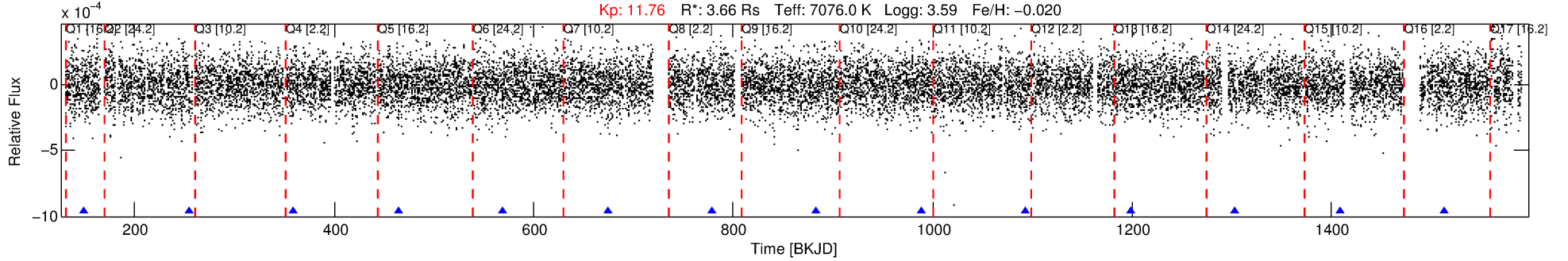
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011811140-08

No Significant Match Found

DV One-Page Summary

KIC: 11811140 Candidate: 8 of 8 Period: 104.874 d



DV Fit Results:

Period = 104.87351 [0.00248] d
Epoch = 149.6324 [0.0183] BKJD
Rp/R* = 0.0160 [0.0017]
a/R* = 28.86 [7.83]
b = 0.97 [0.02]
Seff = 102.85 [58.60]
Teq = 812 [116] K
Rp = 6.38 [2.38] Re
a = 0.5410 [0.1864] AU
Ag = 654.29 [417.38] [1.57 σ]
Teffp = 6350 [557] K [9.74 σ]

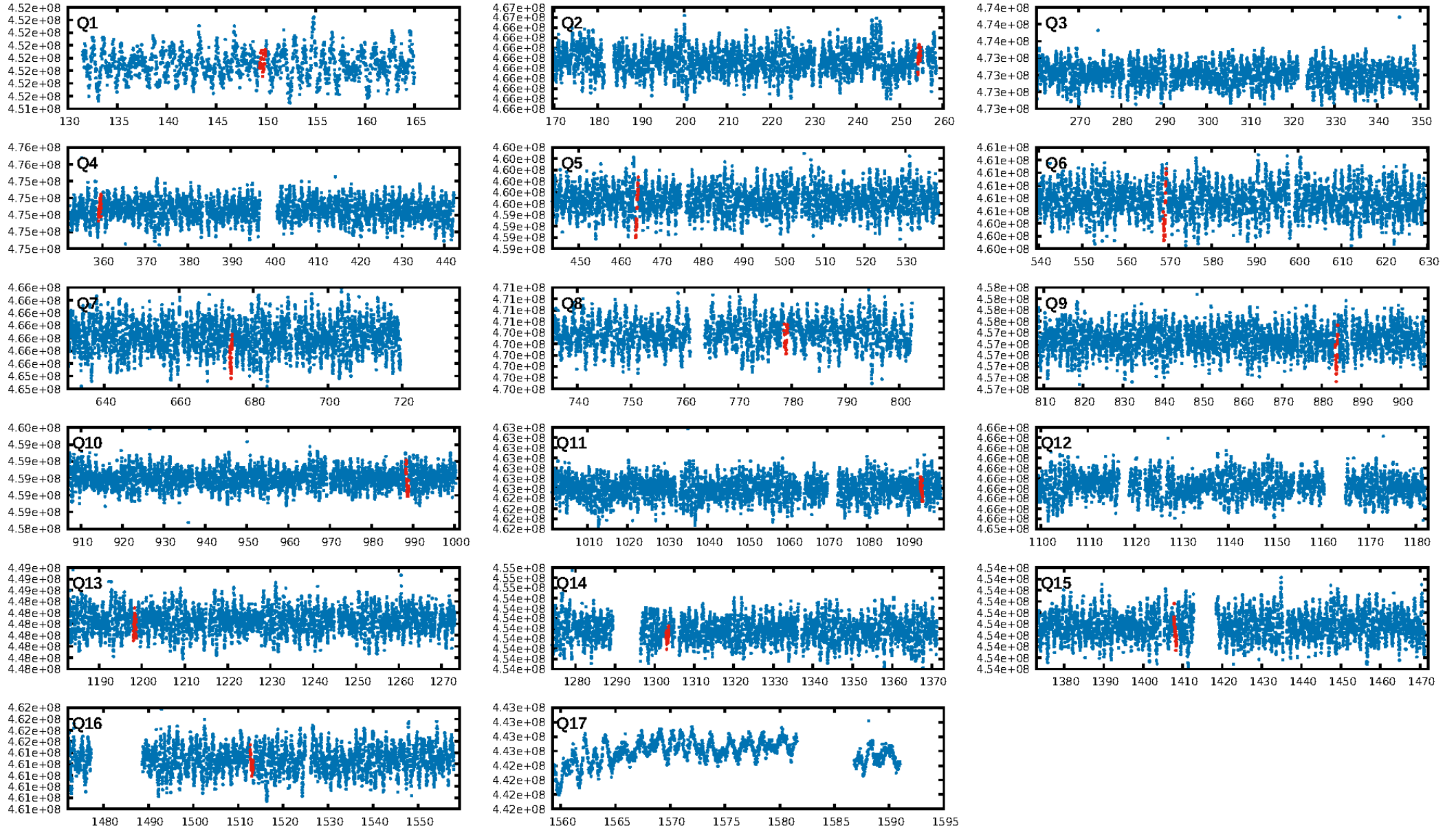
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [57.67 σ]
LongPeriod-sig: 100.0% [16.46 σ]
ModelChiSquare2-sig: 74.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.35e-08
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: -0.5855
Centroid-sig: 83.7%
Centroid-so: 0.168 arcsec [0.40 σ]
OotOffset-rm: 0.357 arcsec [0.92 σ]
KicOffset-rm: 0.473 arcsec [1.32 σ]
OotOffset-st: 4/2/3/2 [11]
KicOffset-st: 4/2/3/2 [11]
DiffImageQuality-fgm: 0.64 [7/11]
DiffImageOverlap-fno: 0.00 [0/13]

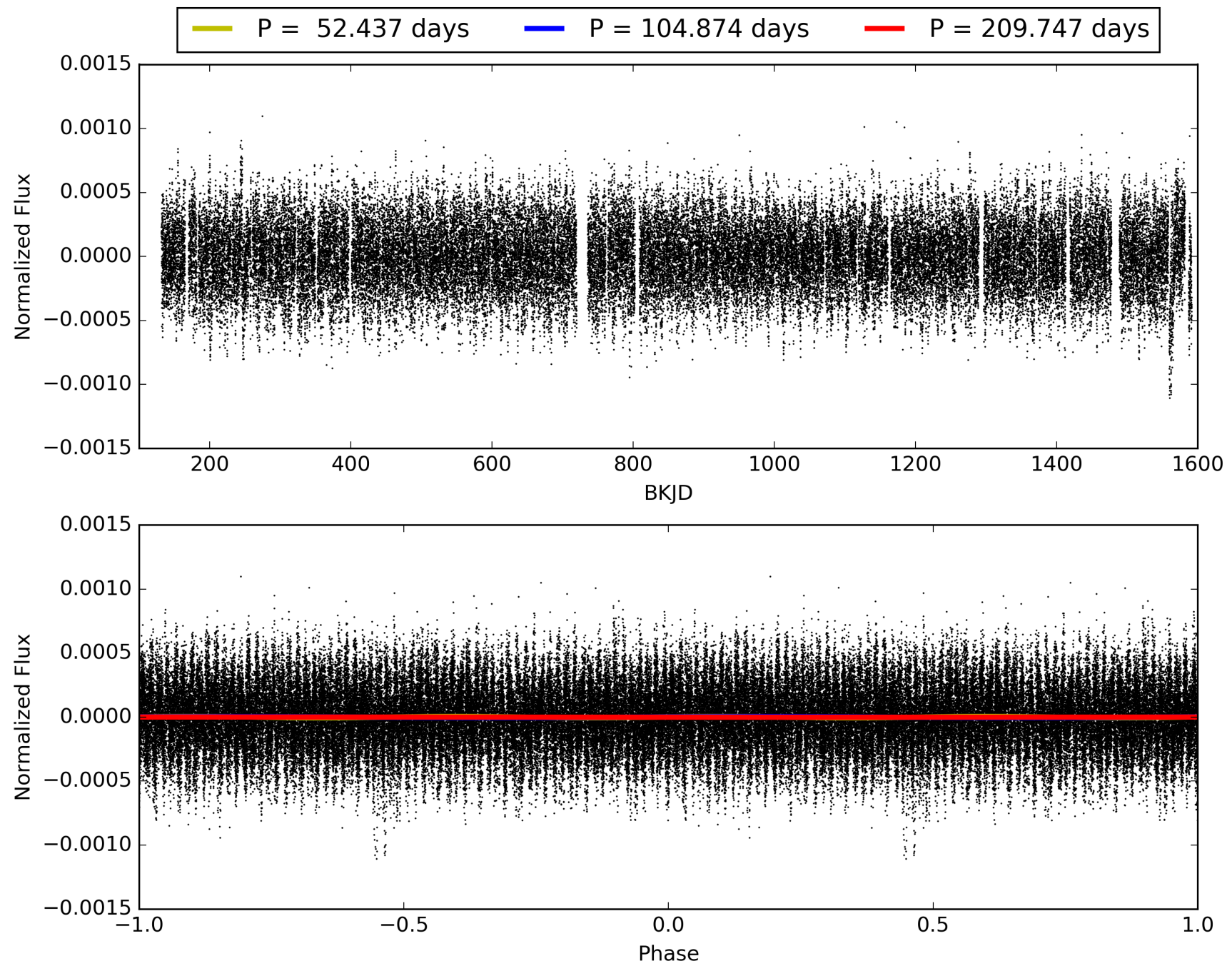
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:06:16 Z

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

TCE 011811140-08, PDC Light Curves

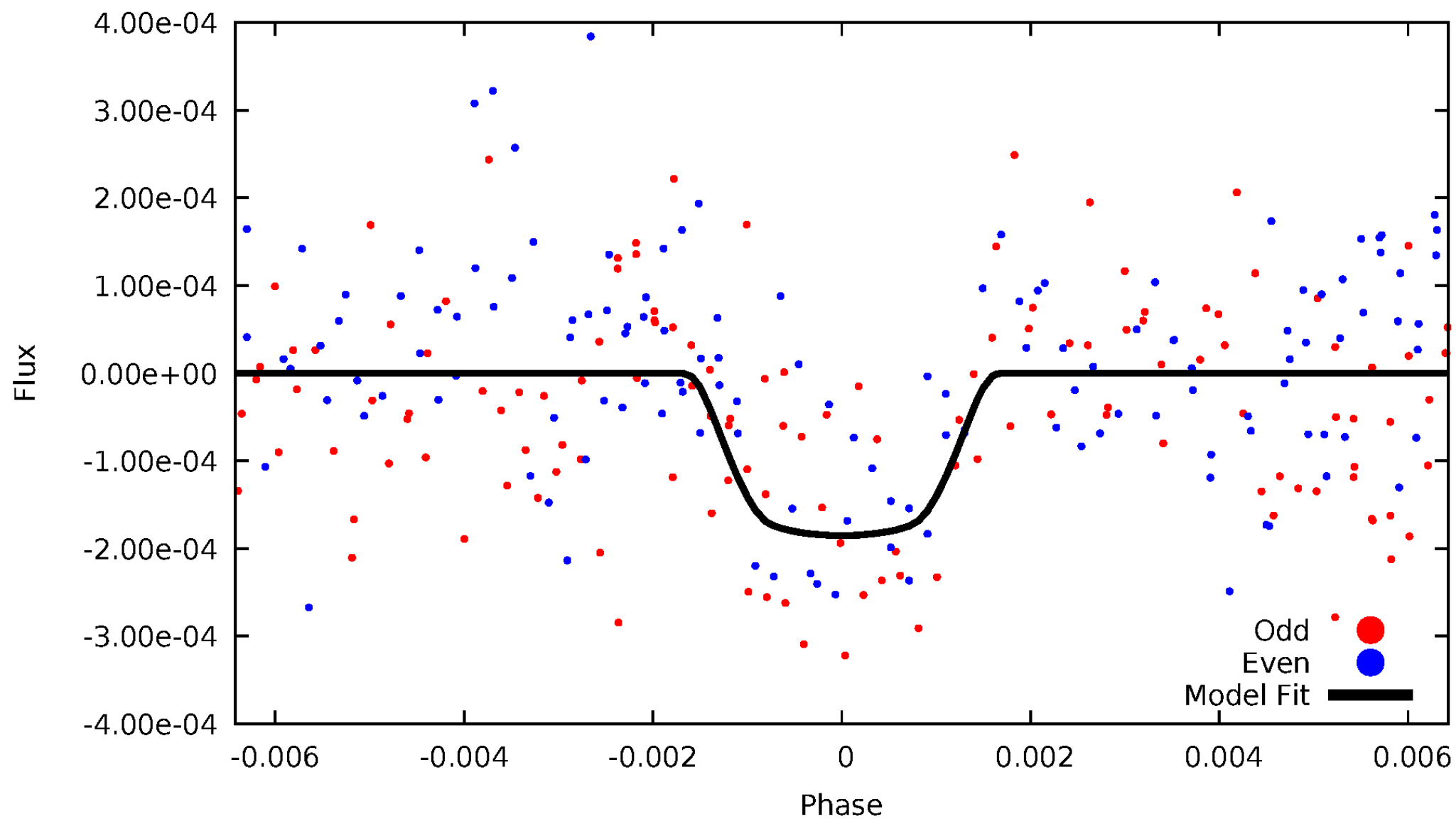


TCE 011811140-08



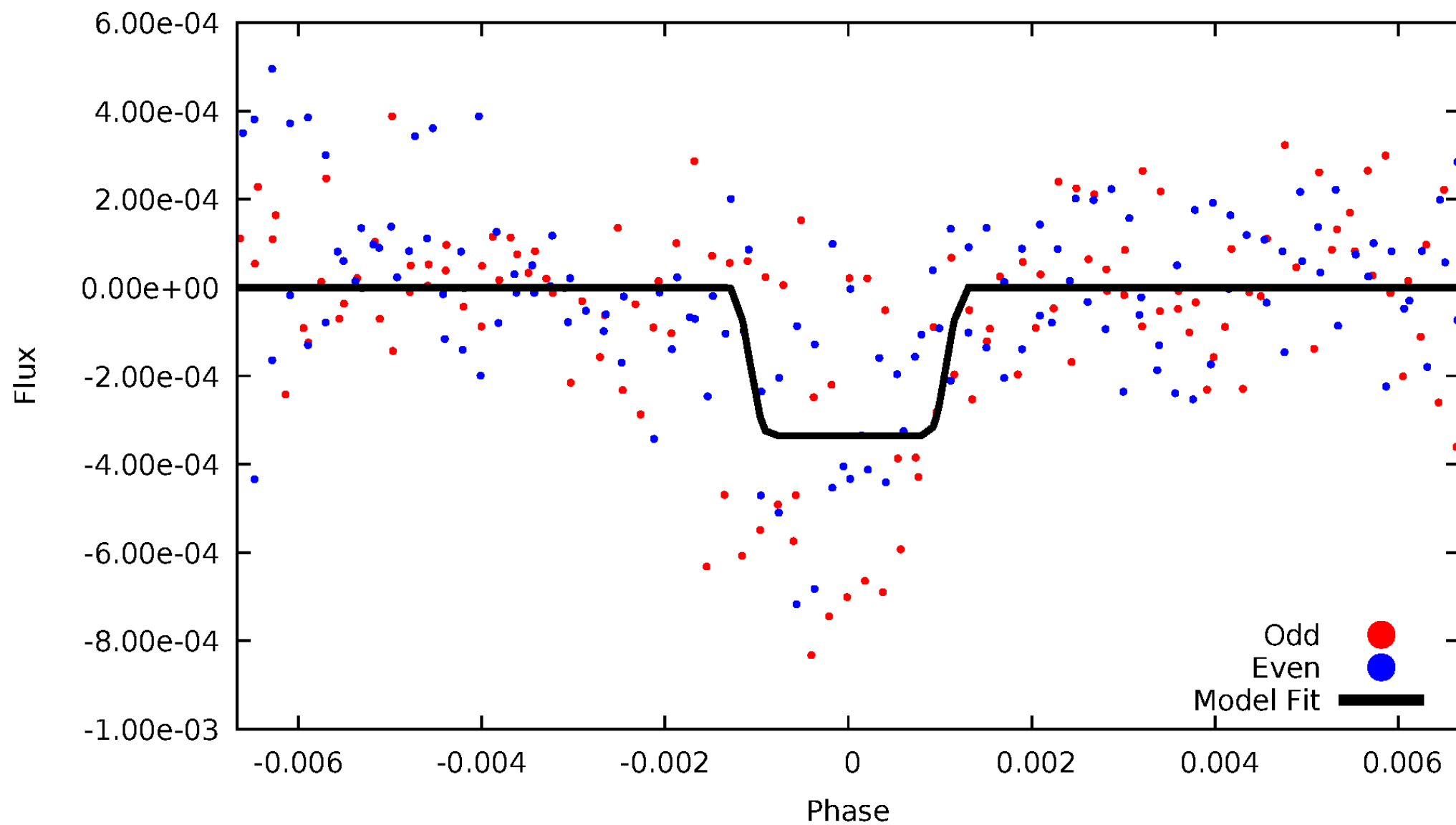
DV Odd/Even

TCE 011811140-08



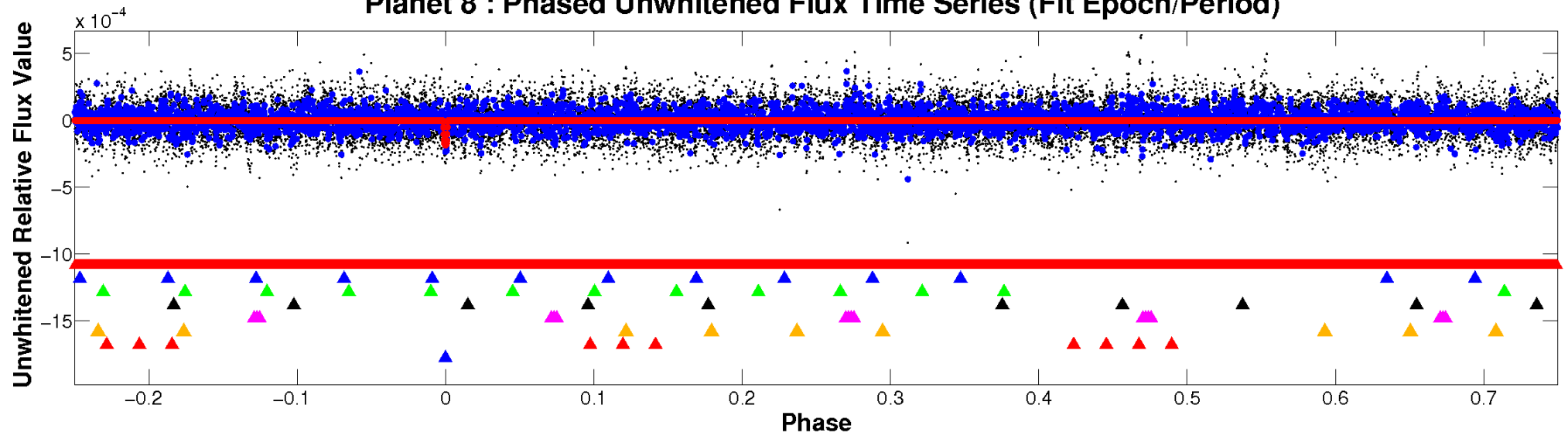
ALT Odd/Even

TCE 011811140-08

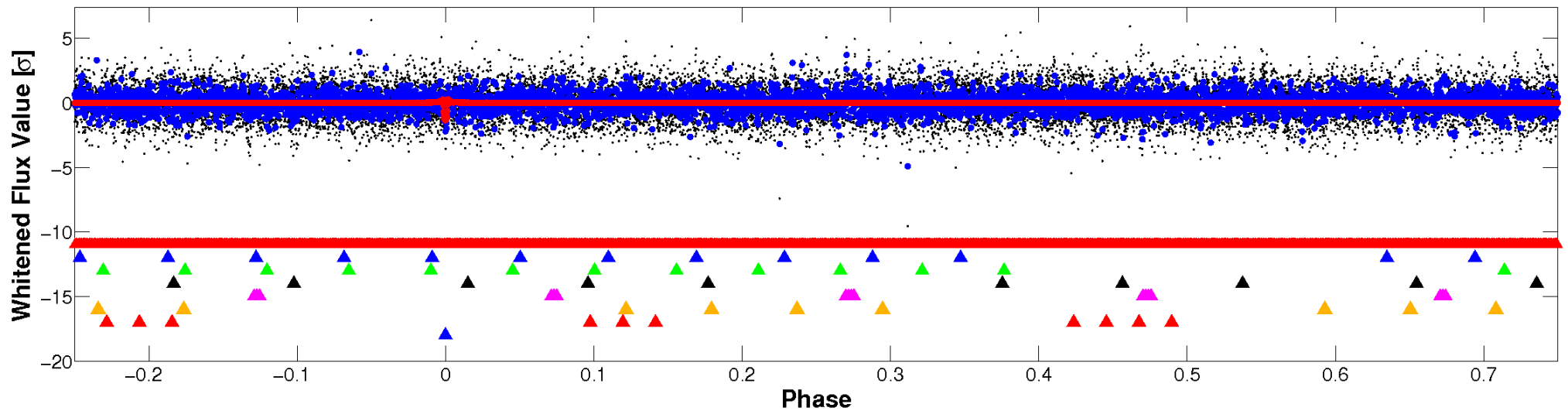


Non-Whitened Vs. Whitened Light Curve

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

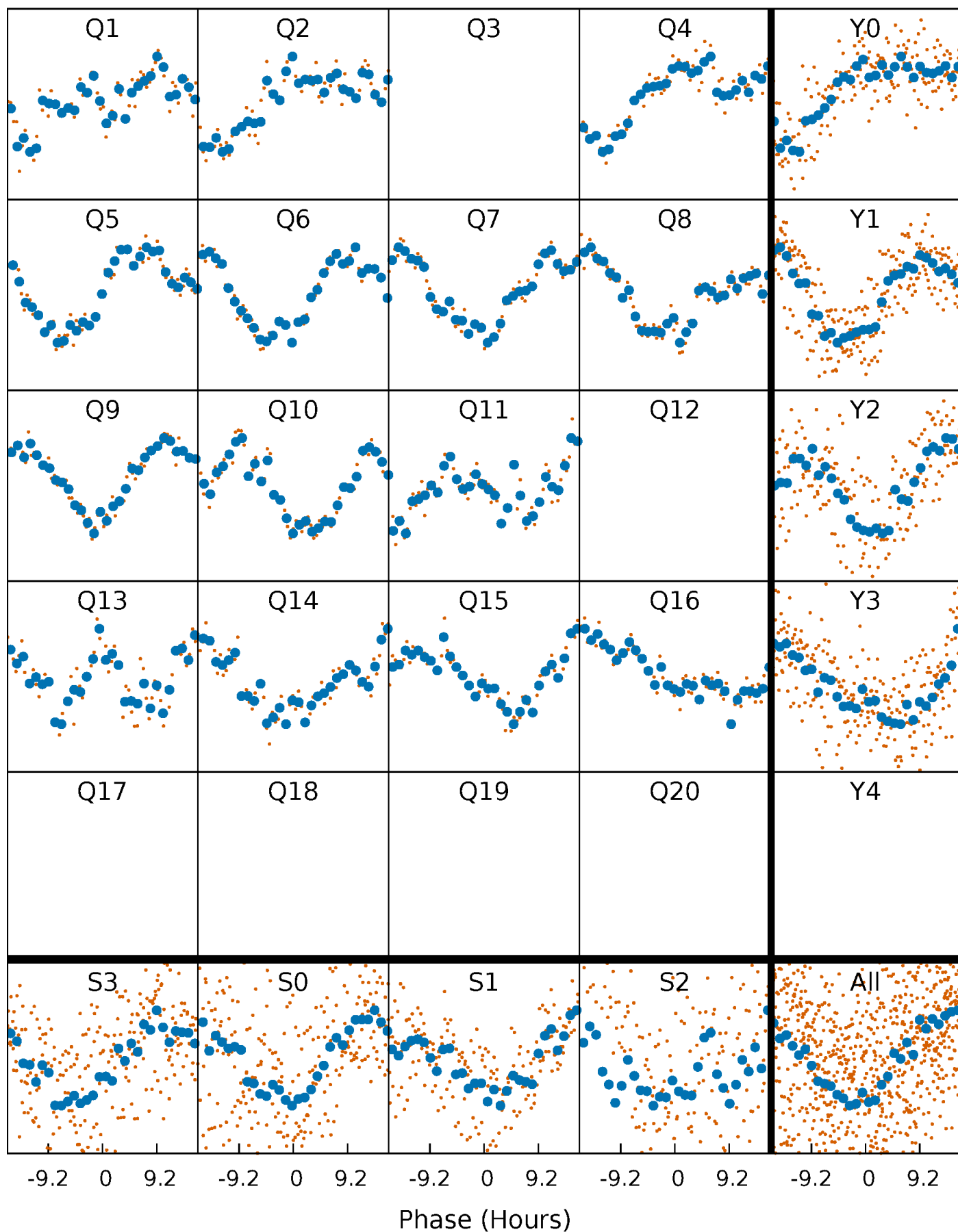


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



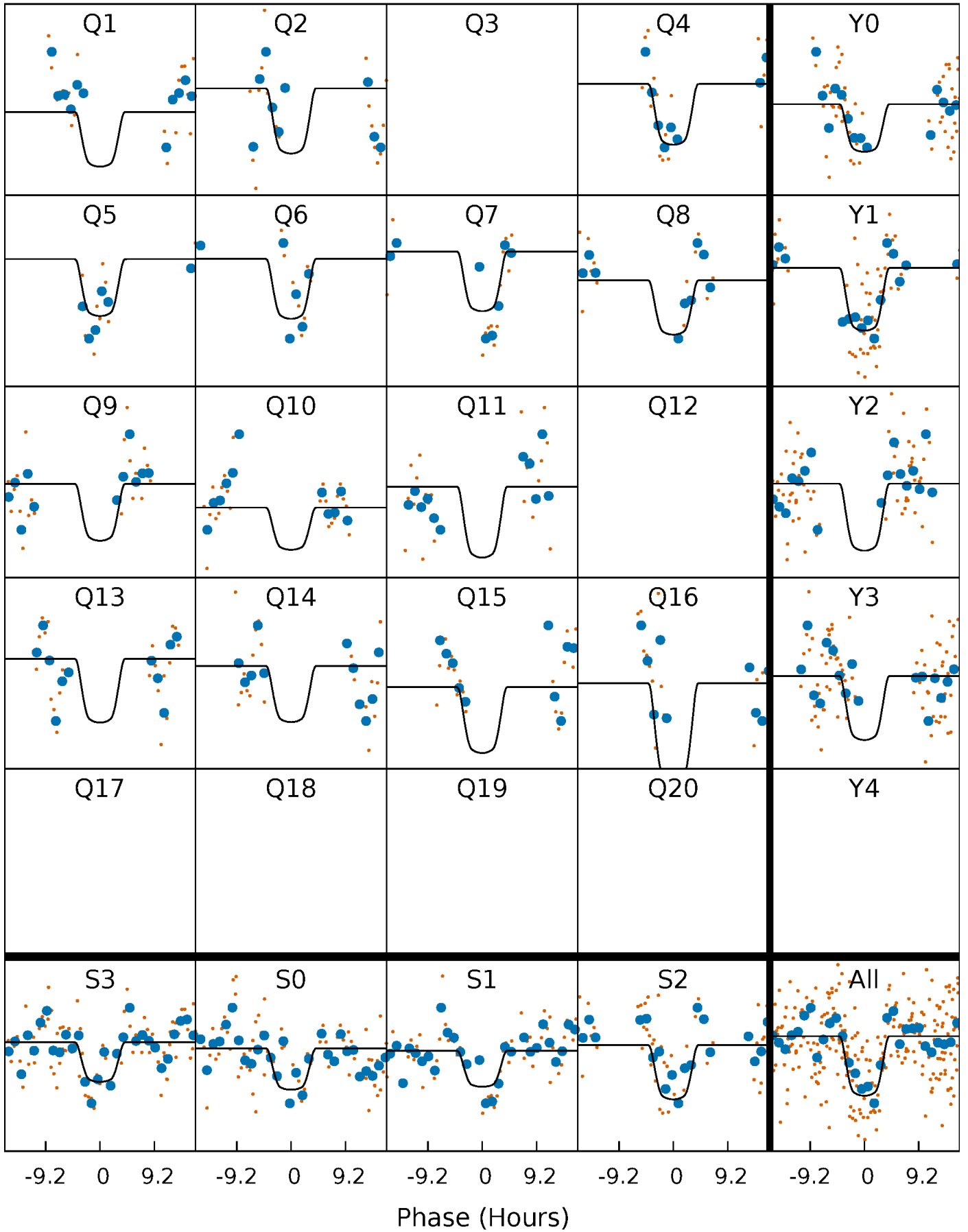
PDC Quarter-Phased Transit Curves

TCE 011811140-08 P=104.873512 Days $T_0=149.632424$ (BKJD)



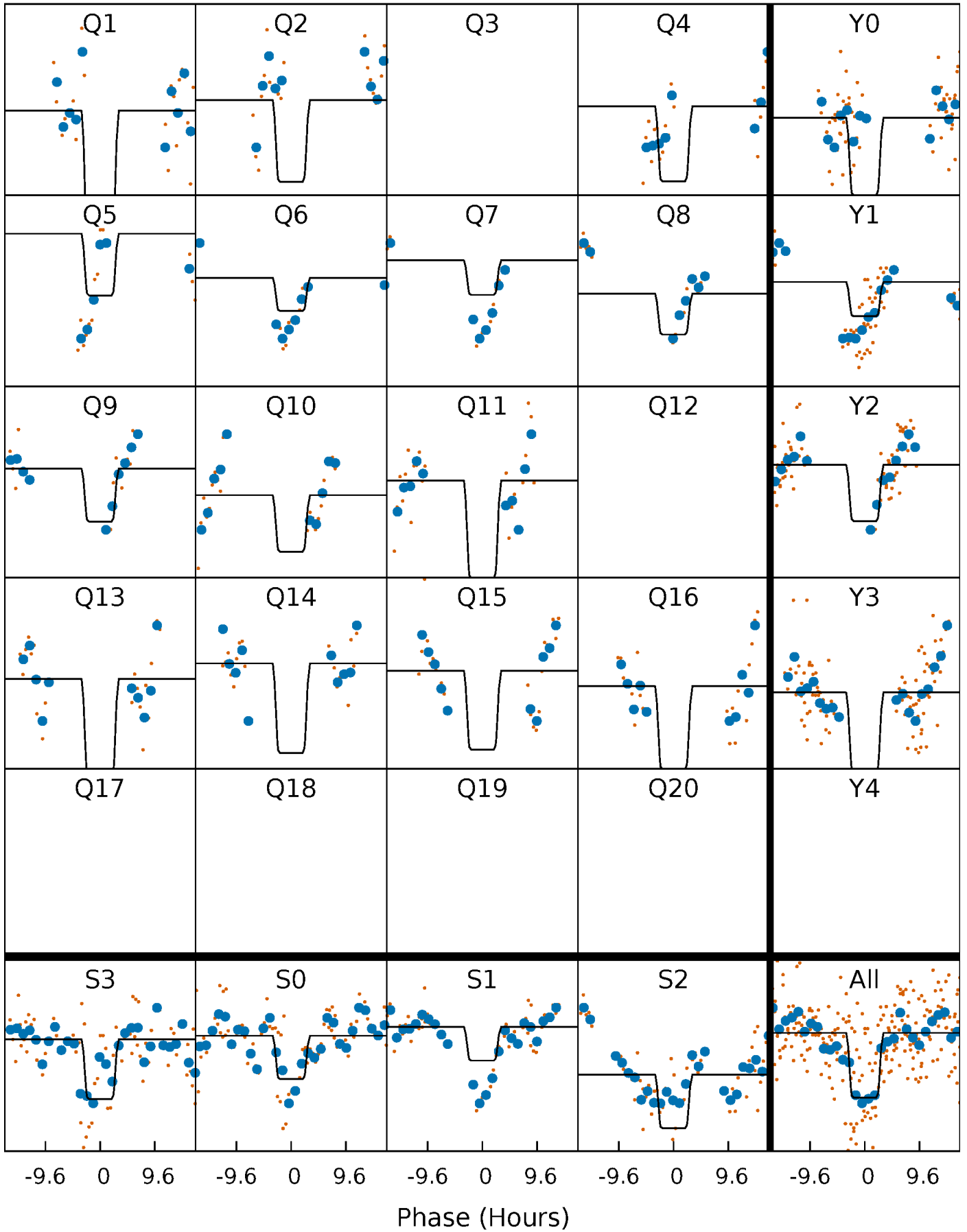
DV Quarter-Phased Transit Curves

TCE 011811140-08 P=104.873512 Days $T_0=149.632424$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

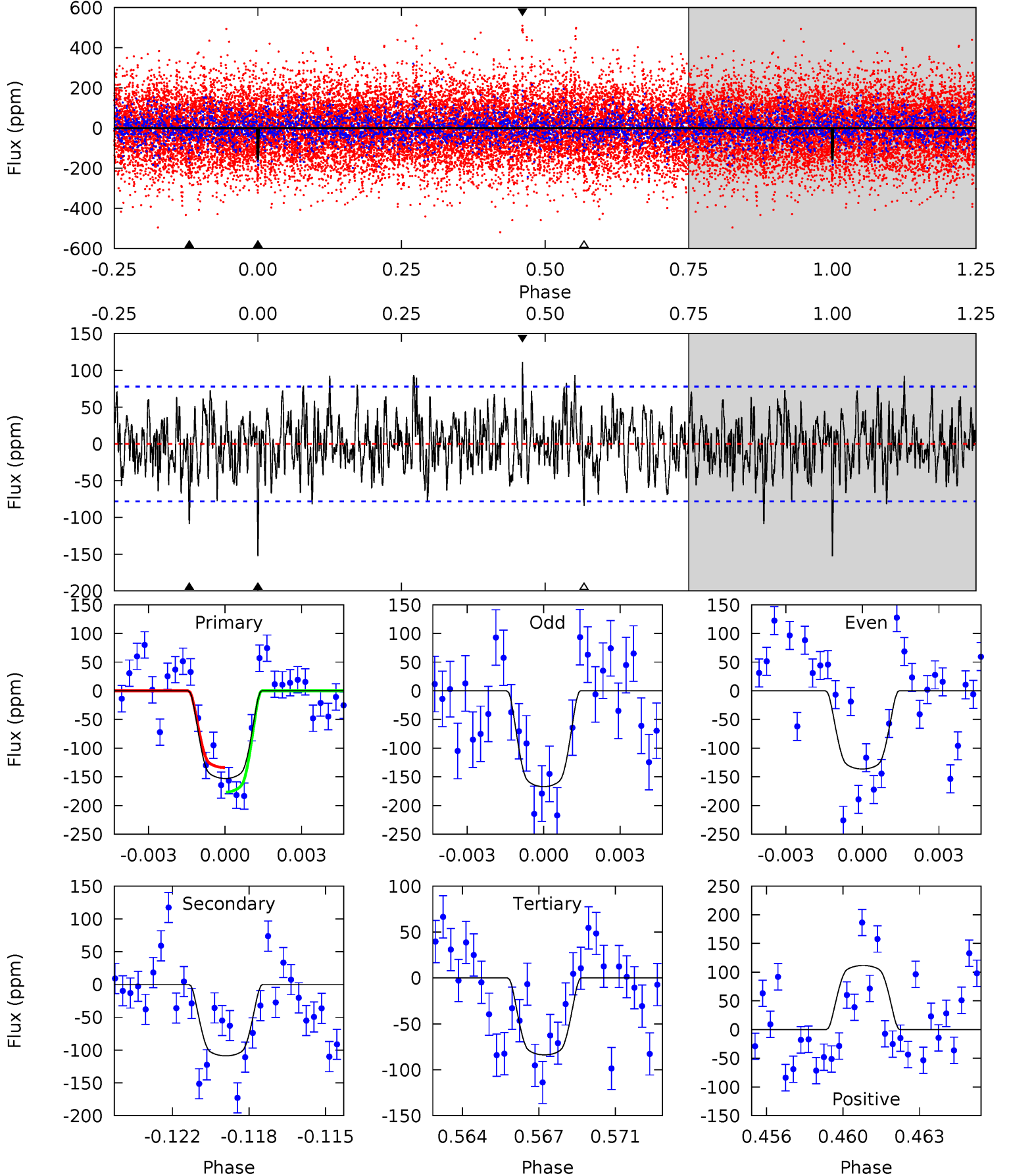
TCE 011811140-08 P=104.887539 Days $T_0=149.608217$ (BKJD)



DV Model-Shift Uniqueness Test

011811140-08, $P = 104.873512$ Days, $E = 44.758912$ Days

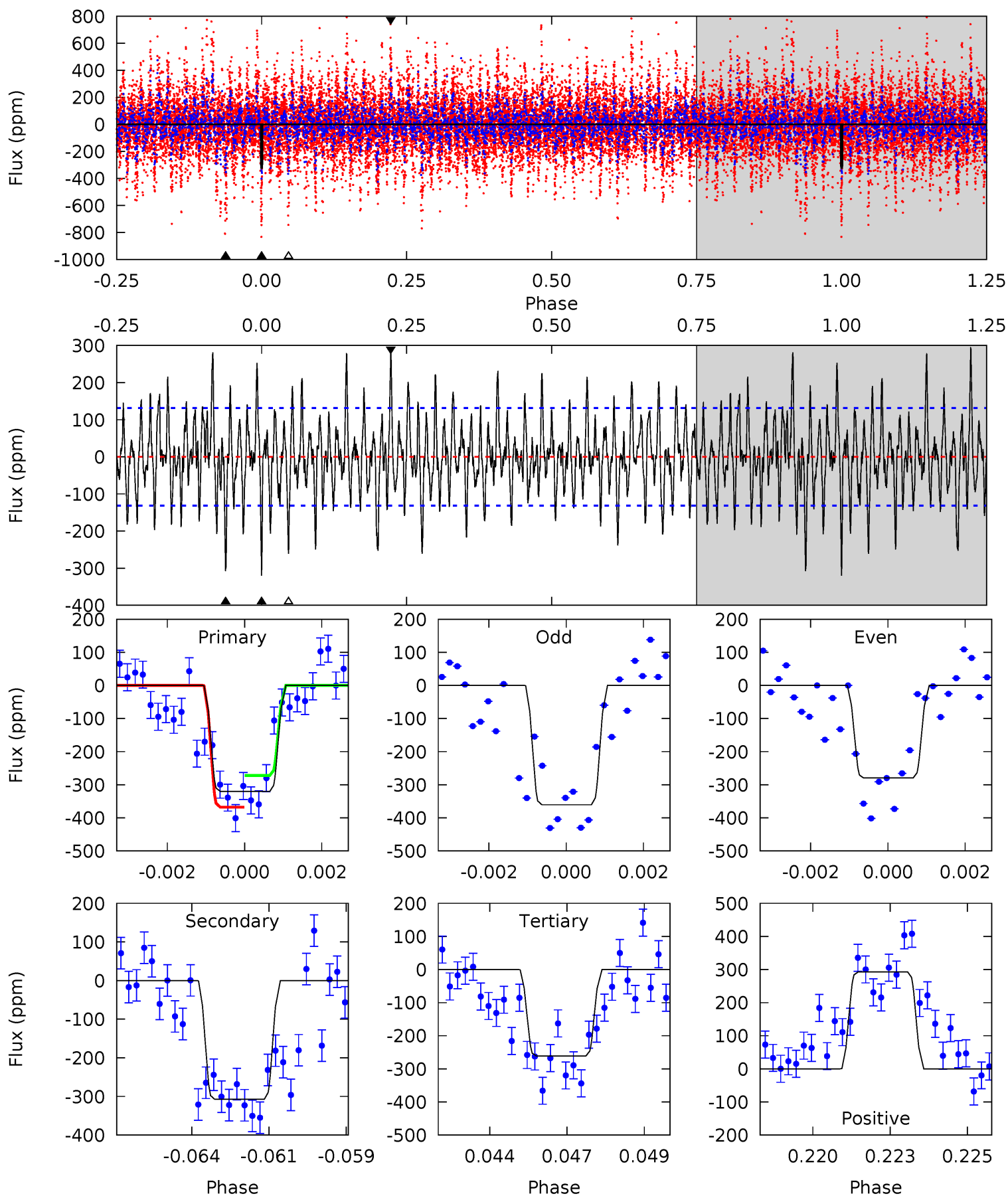
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	7.29	5.61	7.48	5.23	2.92	2.06	4.62	2.76	1.67	-0.19	1.03	0.72	0.42	1.42



Alt Model-Shift Uniqueness Test

011811140-08, P = 104.887539 Days, E = 44.720678 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	12.4	10.5	11.8	5.29	3.03	3.47	2.38	1.10	1.87	0.59	1.62	0.90	0.48	1.94



Stellar Parameters For KIC 011811140

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7076^{+168}_{-252}	$3.594^{+0.324}_{-0.054}$	$-0.020^{+0.250}_{-0.250}$	$3.661^{+0.327}_{-1.310}$	$1.919^{+0.155}_{-0.336}$	$0.055^{+0.126}_{-0.010}$
	+2%/-4%	+9%/-2%	+1250%/-1250%	+9%/-36%	+8%/-18%	+228%/-18%
Source	PHO1	FLK73	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 011811140-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-109 ± 15	$6.03^{+0.95}_{-1.24}$	1098^{+61}_{-90}	5648^{+388}_{-326}	490^{+261}_{-141}
Alt.	-308 ± 25	$6.87^{+1.05}_{-1.61}$	1100^{+63}_{-113}	6868^{+468}_{-381}	1071^{+644}_{-273}

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 $A_{obs} \gg 1.0$

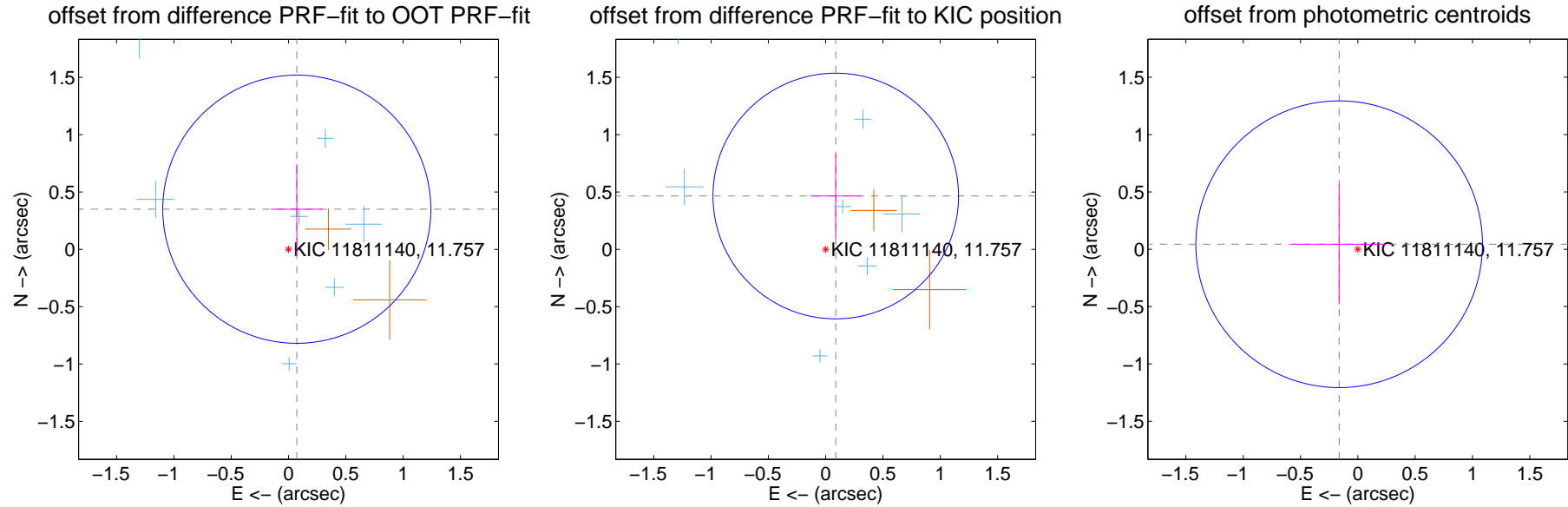
DV Centroid Data

Supplemental centroid analysis for 011811140-08. **Kepler magnitude: 11.76.** Transit SNR 8.17

There are 7 quarters with good PRF difference image offsets

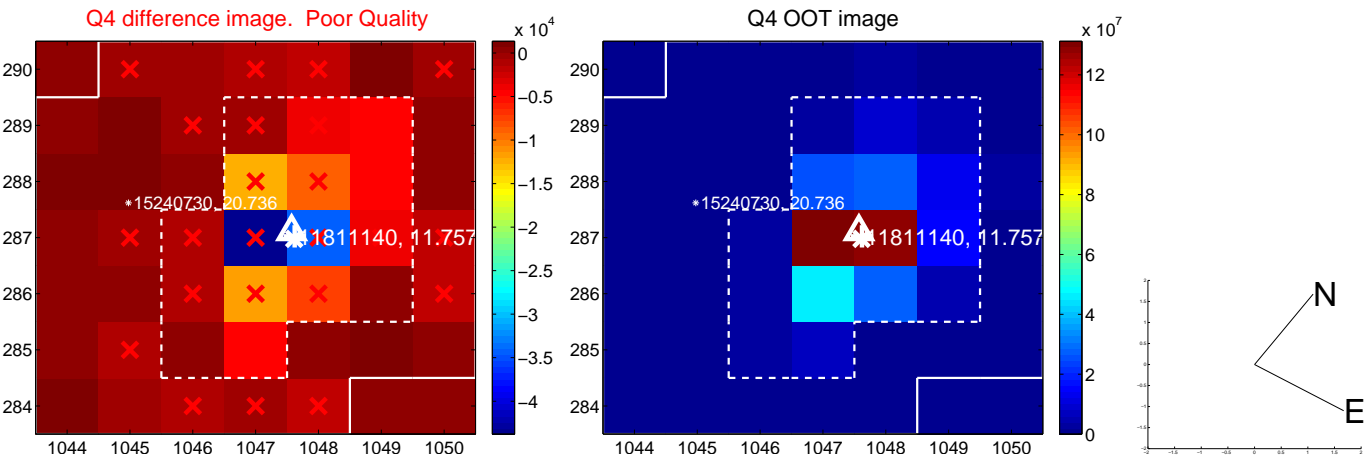
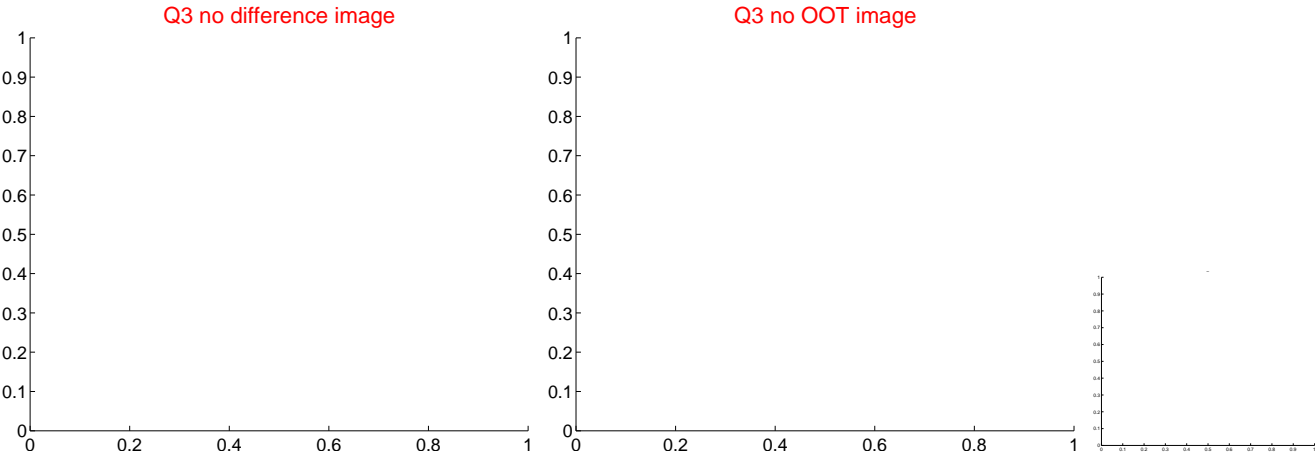
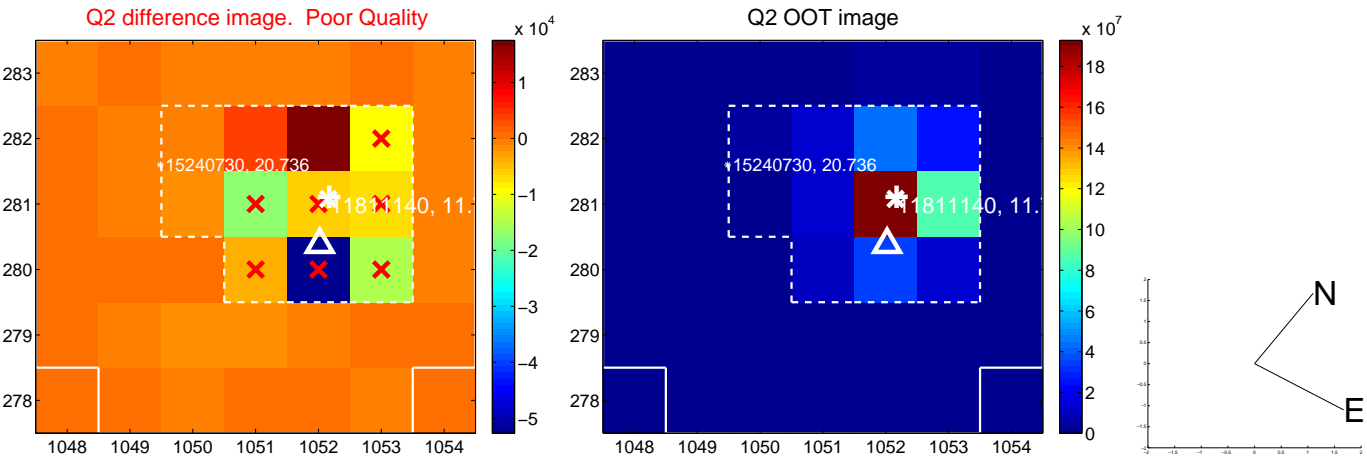
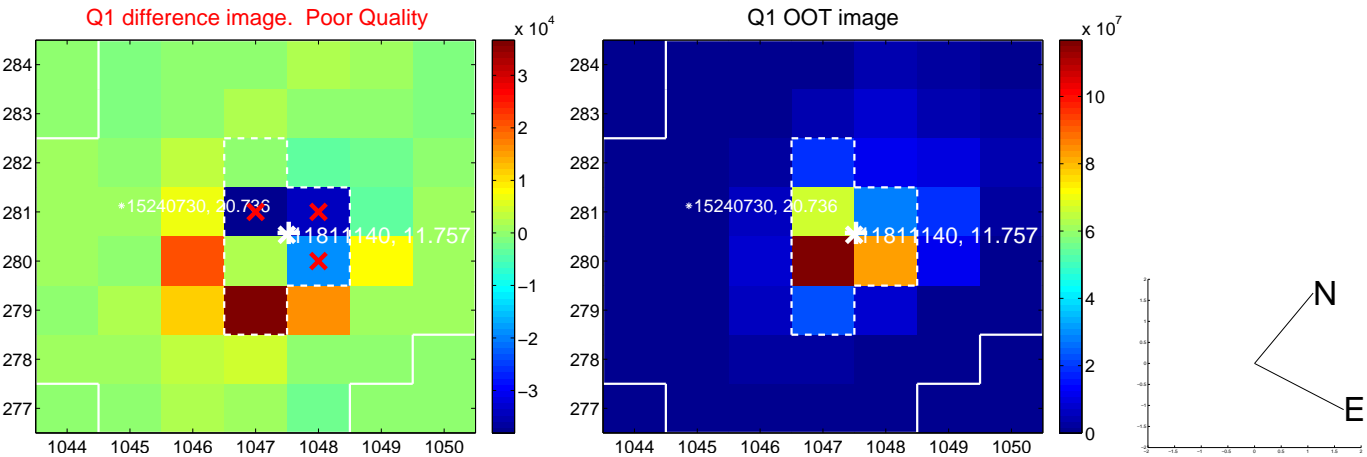
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.357 ± 0.390	0.92	-0.072 ± 0.226	0.350 ± 0.396
PRF-fit source offset from KIC position	0.473 ± 0.357	1.32	-0.088 ± 0.221	0.465 ± 0.368
photometric centroid source offset	0.17 ± 0.42	0.40	0.16 ± 0.41	0.04 ± 0.52

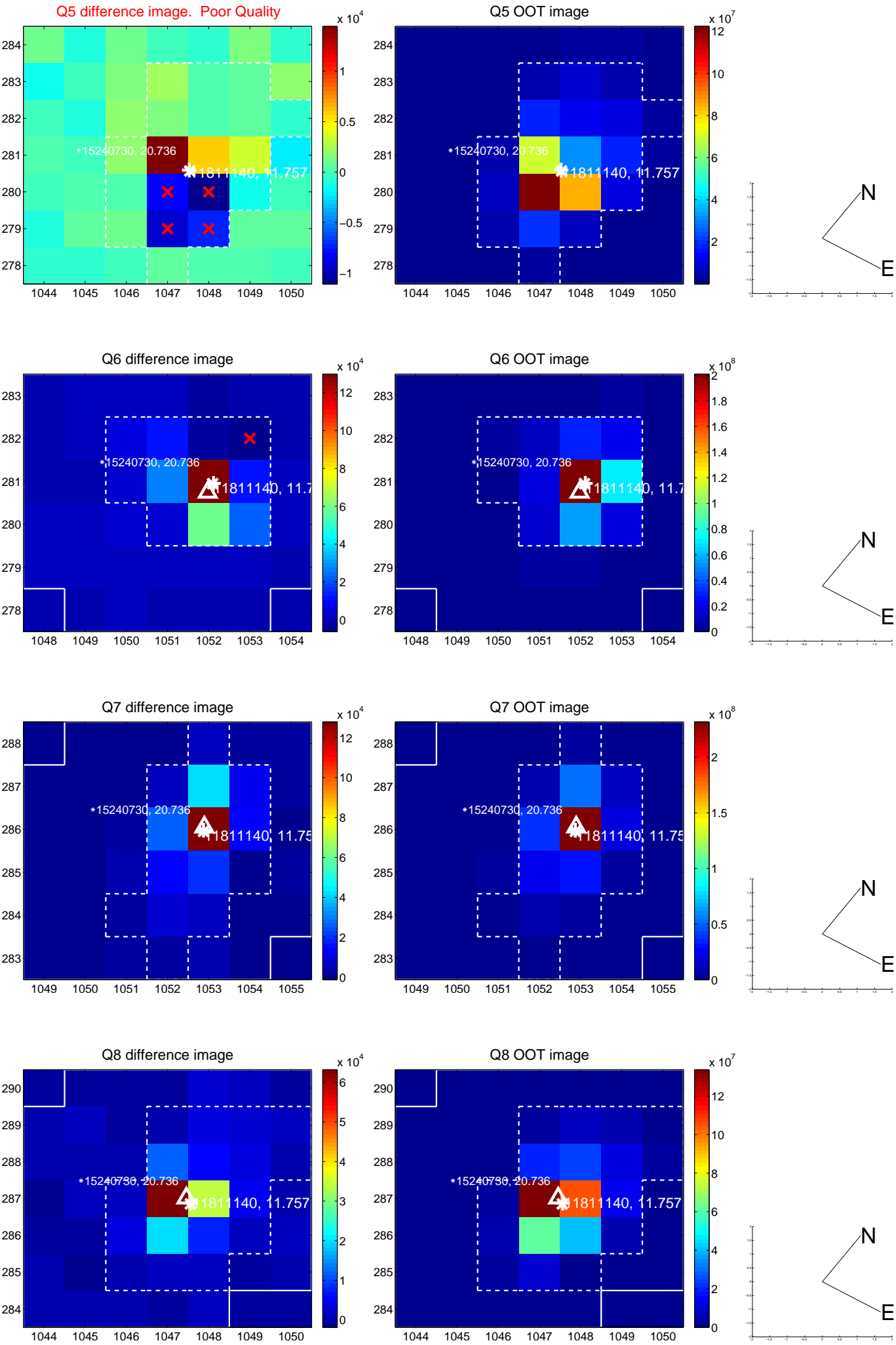


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

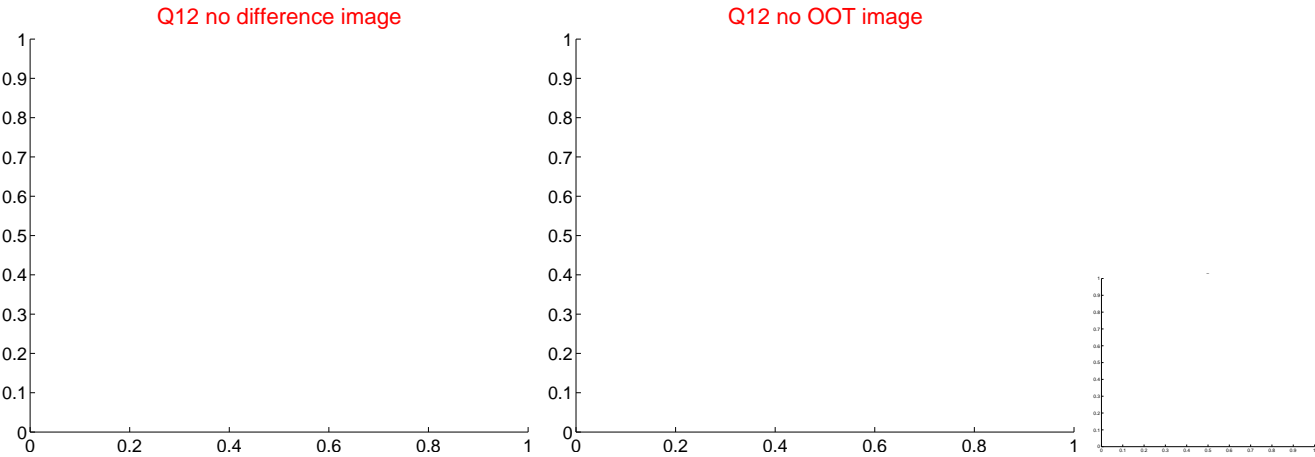
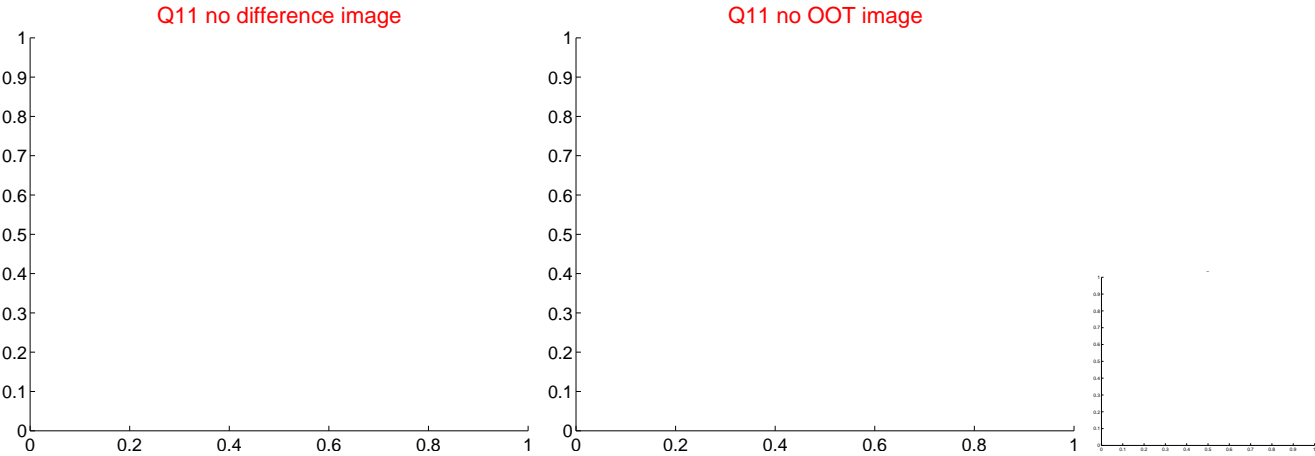
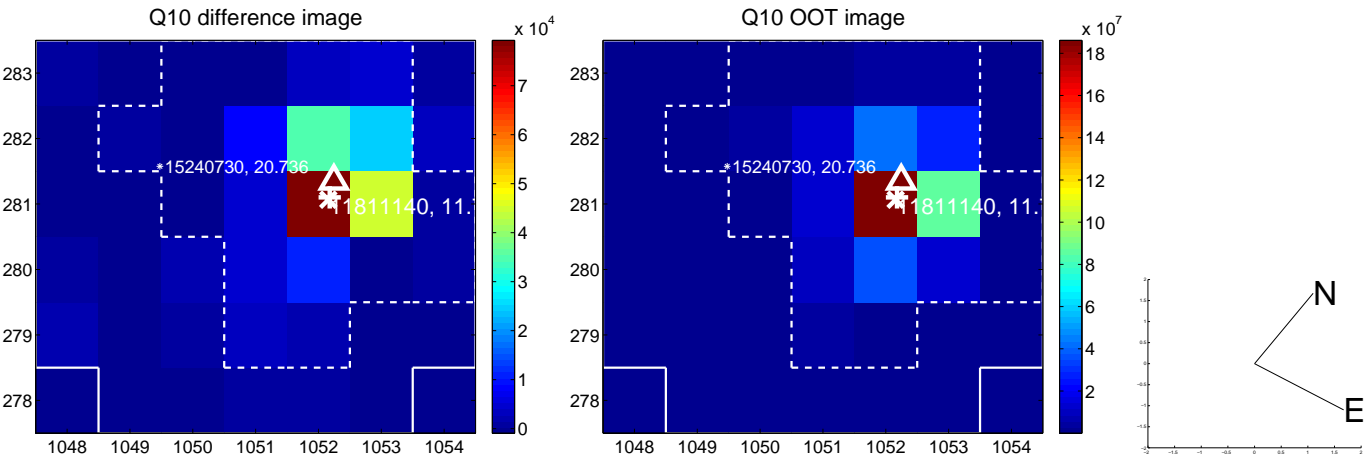
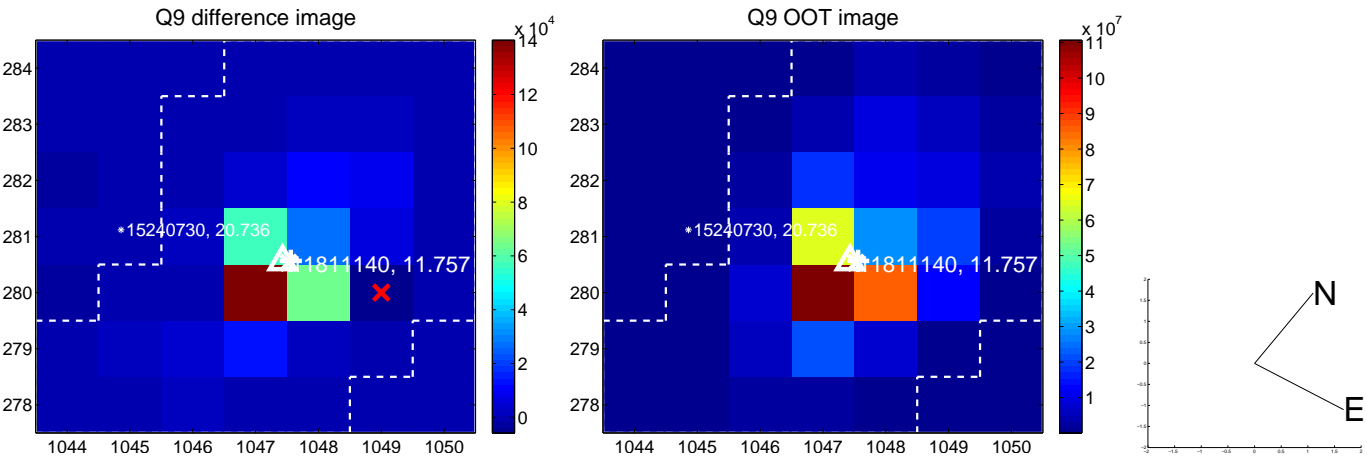
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



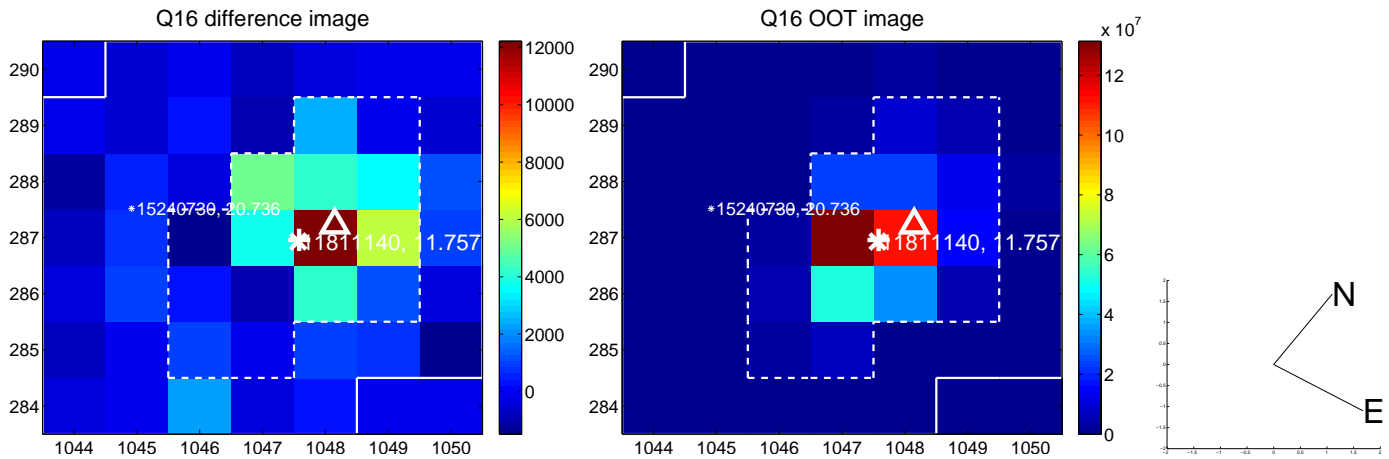
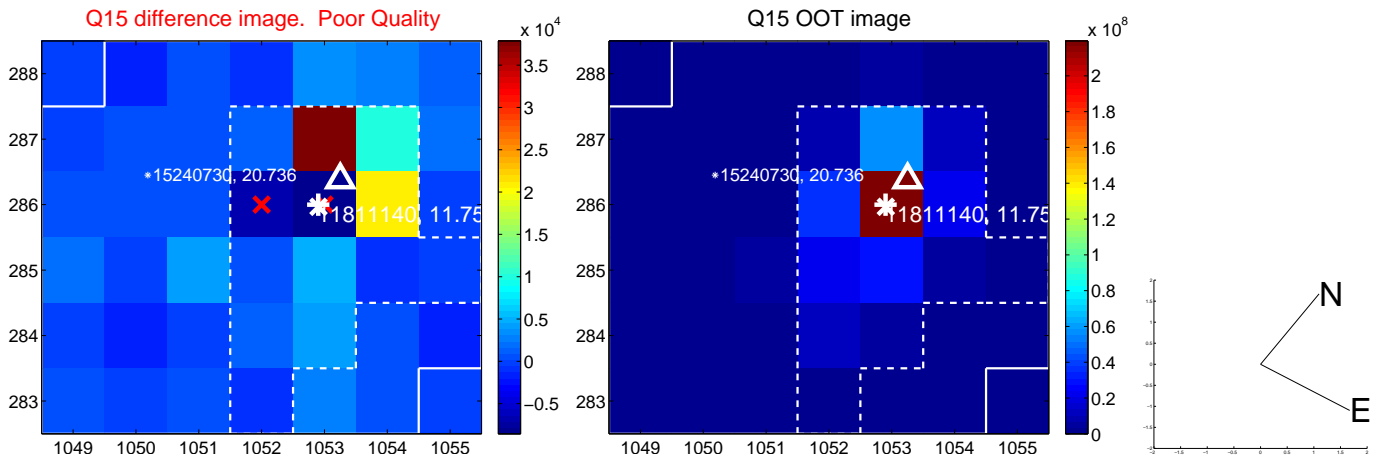
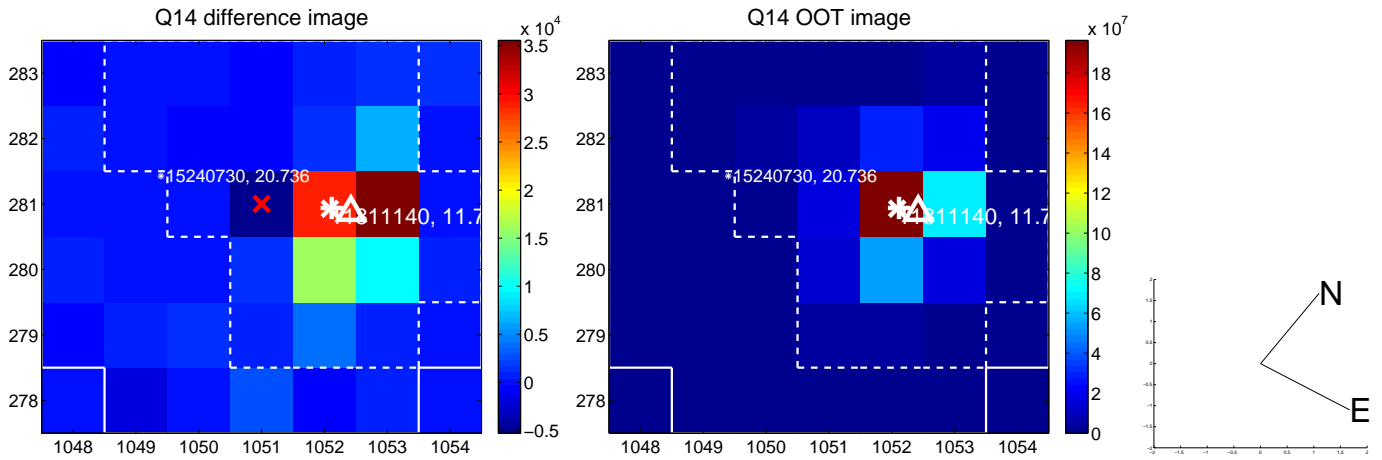
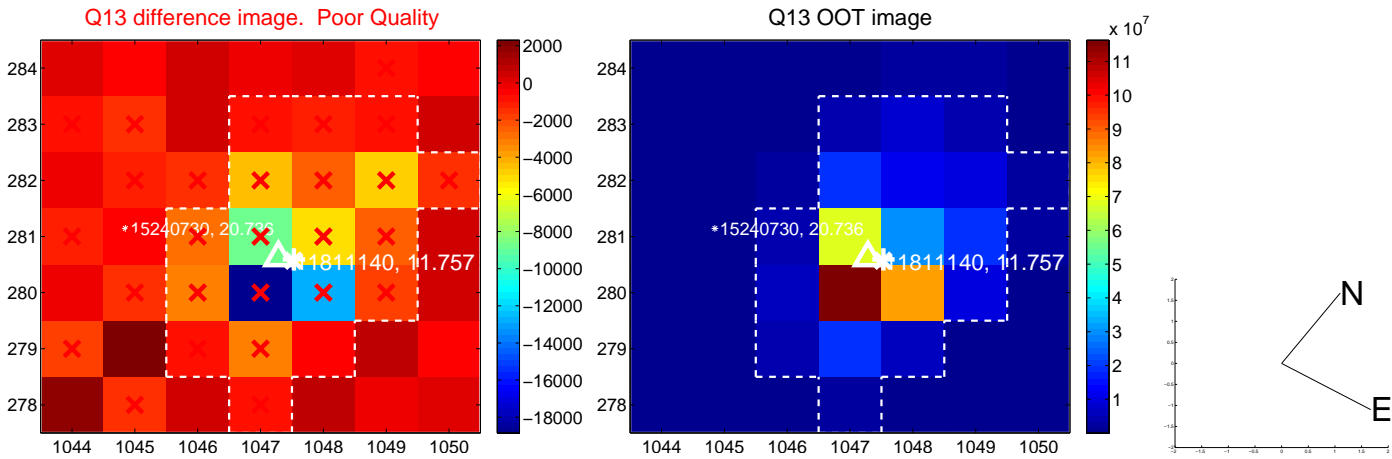
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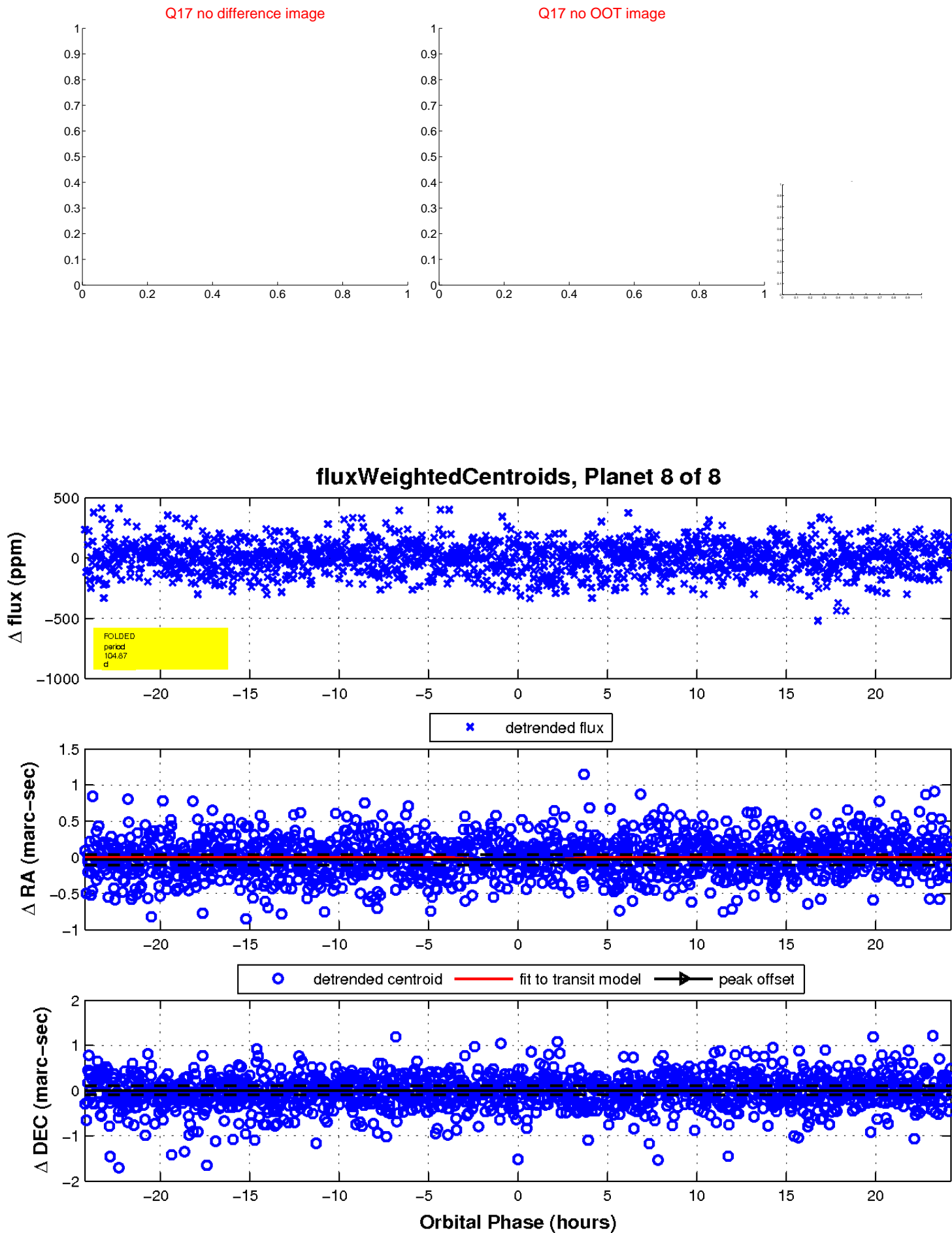
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

