

KIC 004285040

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})
004285040-01	OBS	No	0.979586	131.872964	66.5	6.211	8.2	5.8	2.70	7701	2.31	39712.14
004285040-02	OBS	No	74.534187	149.294479	5905.1	7.496	21.0	9.3	2.70	7701	36.77	123.17
004285040-03	OBS	No	81.993201	175.525601	4354.3	6.164	15.0	8.8	2.70	7701	31.84	108.46
004285040-04	OBS	No	79.575131	186.600422	3431.1	4.999	14.4	8.1	2.70	7701	28.43	112.88
004285040-05	OBS	No	119.291949	197.174239	428.1	6.000	10.8	-1.0	2.70	7701	5.67	65.79
004285040-06	OBS	No	101.733249	181.215102	4671.8	7.879	13.1	9.1	2.70	7701	32.90	81.35
004285040-07	OBS	No	1.960053	131.626784	439.7	4.500	11.9	-1.0	2.70	7701	5.74	15750.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004285040-01	OBS	FP	0.00	1	0	0	0	LPP_DV
004285040-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV
004285040-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES
004285040-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT
004285040-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST
004285040-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
004285040-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—CENT_NOFITS

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

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

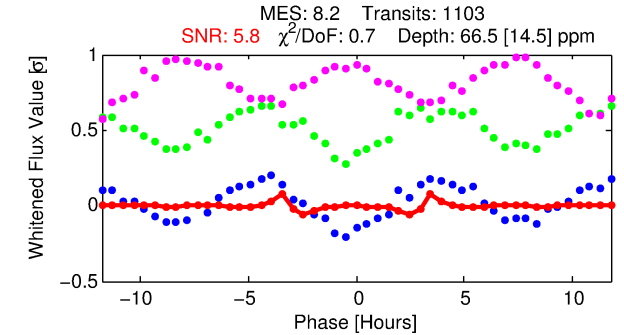
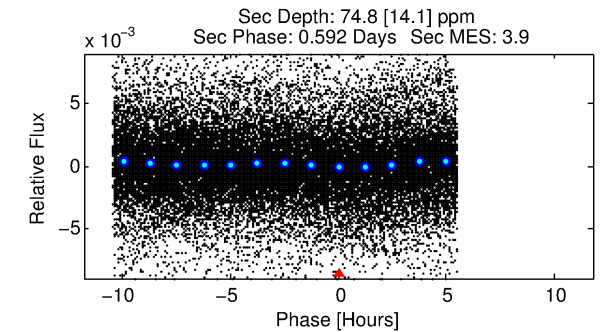
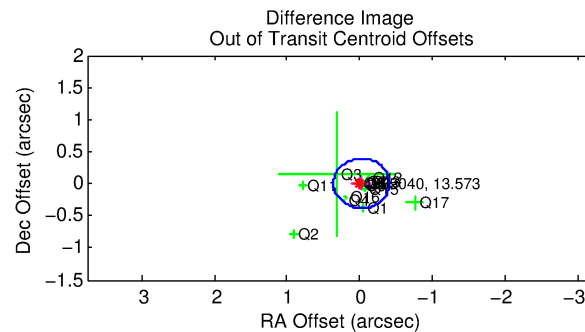
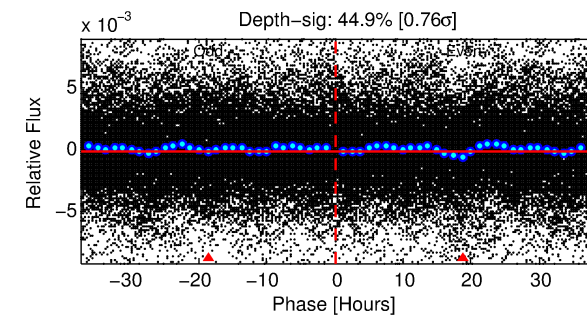
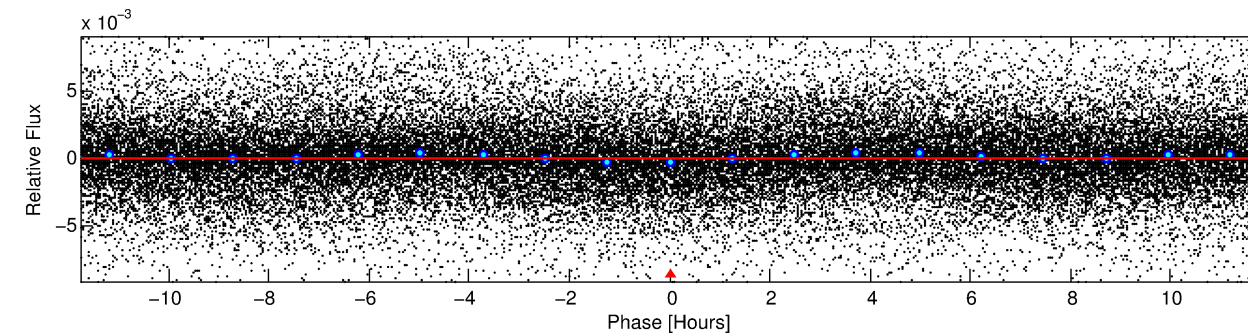
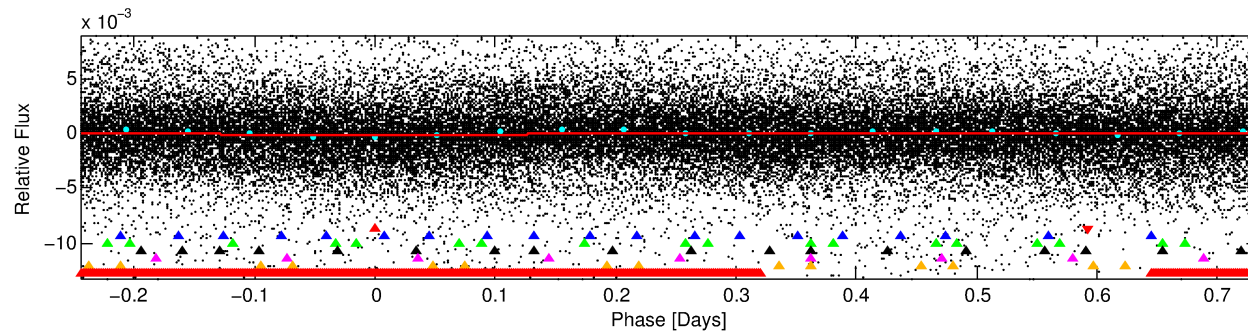
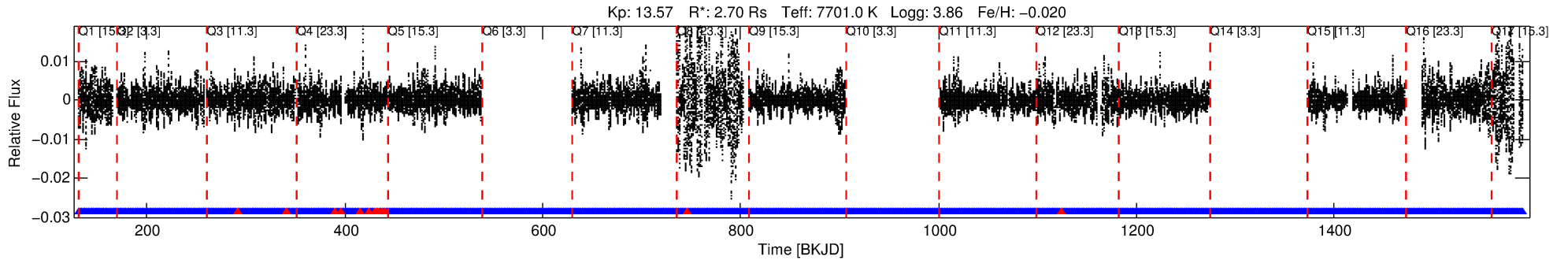
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004285040-01

No Significant Match Found

DV One-Page Summary

KIC: 4285040 Candidate: 1 of 7 Period: 0.980 d



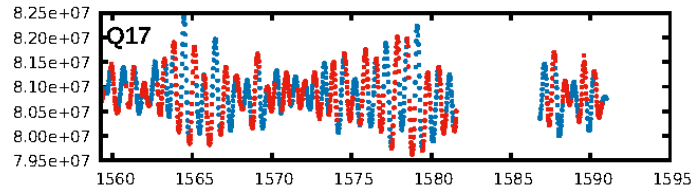
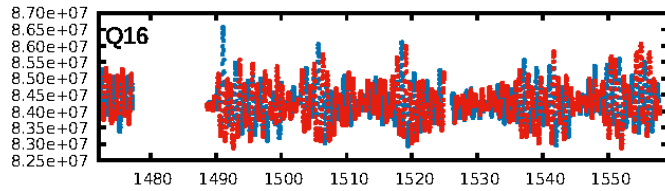
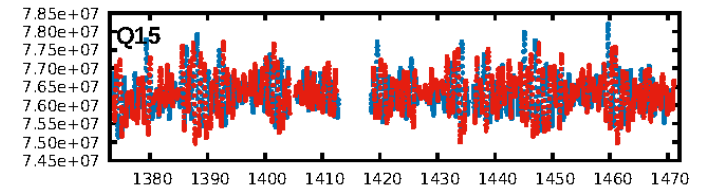
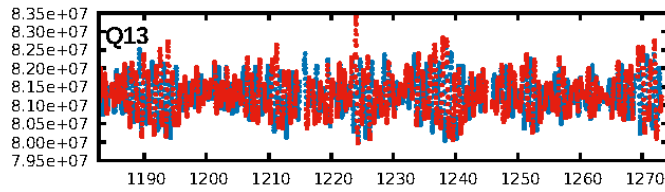
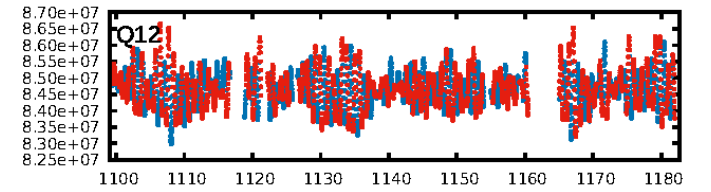
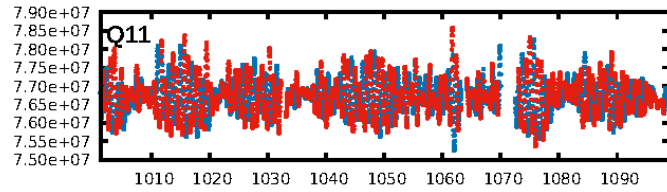
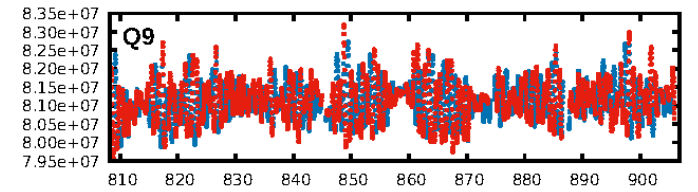
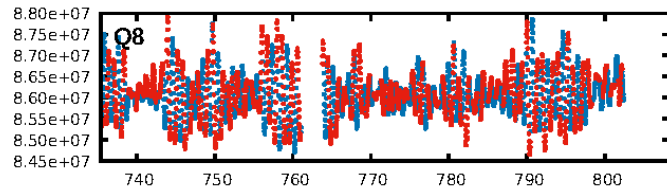
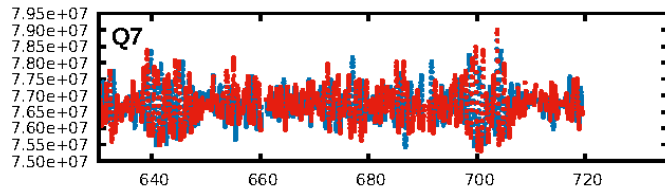
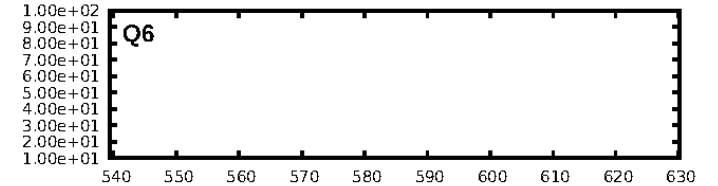
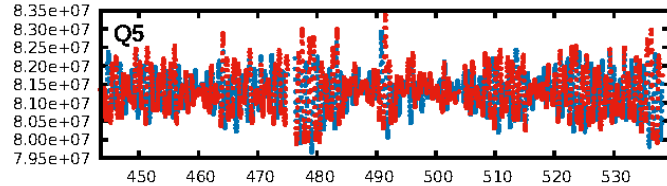
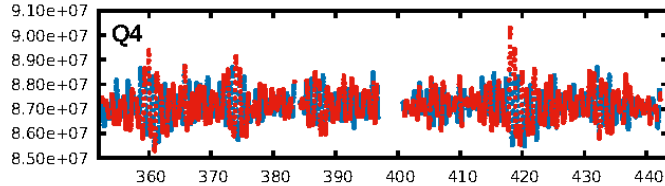
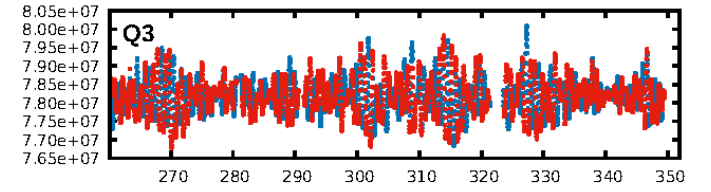
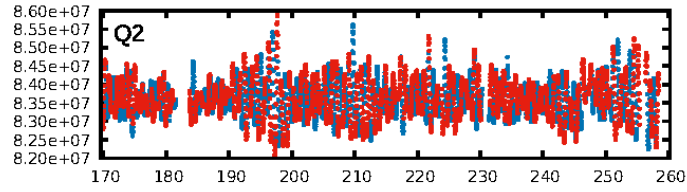
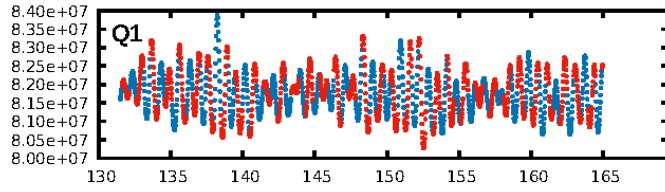
DV Fit Results:

Period = 0.97959 [0.00002] d
Epoch = 131.8730 [0.0022] BKJD
Rp/R* = 0.0078 [0.0027]
a/R* = 1.26 [0.97]
b = 0.57 [2.47]
Seff = 39712.14 [22268.11]
Teq = 3600 [505] K
Rp = 2.31 [1.18] Re
a = 0.0241 [0.0083] AU
Ag = 4.48 [4.00] [0.87 σ]
Teffp = 8099 [1482] K [2.87 σ]

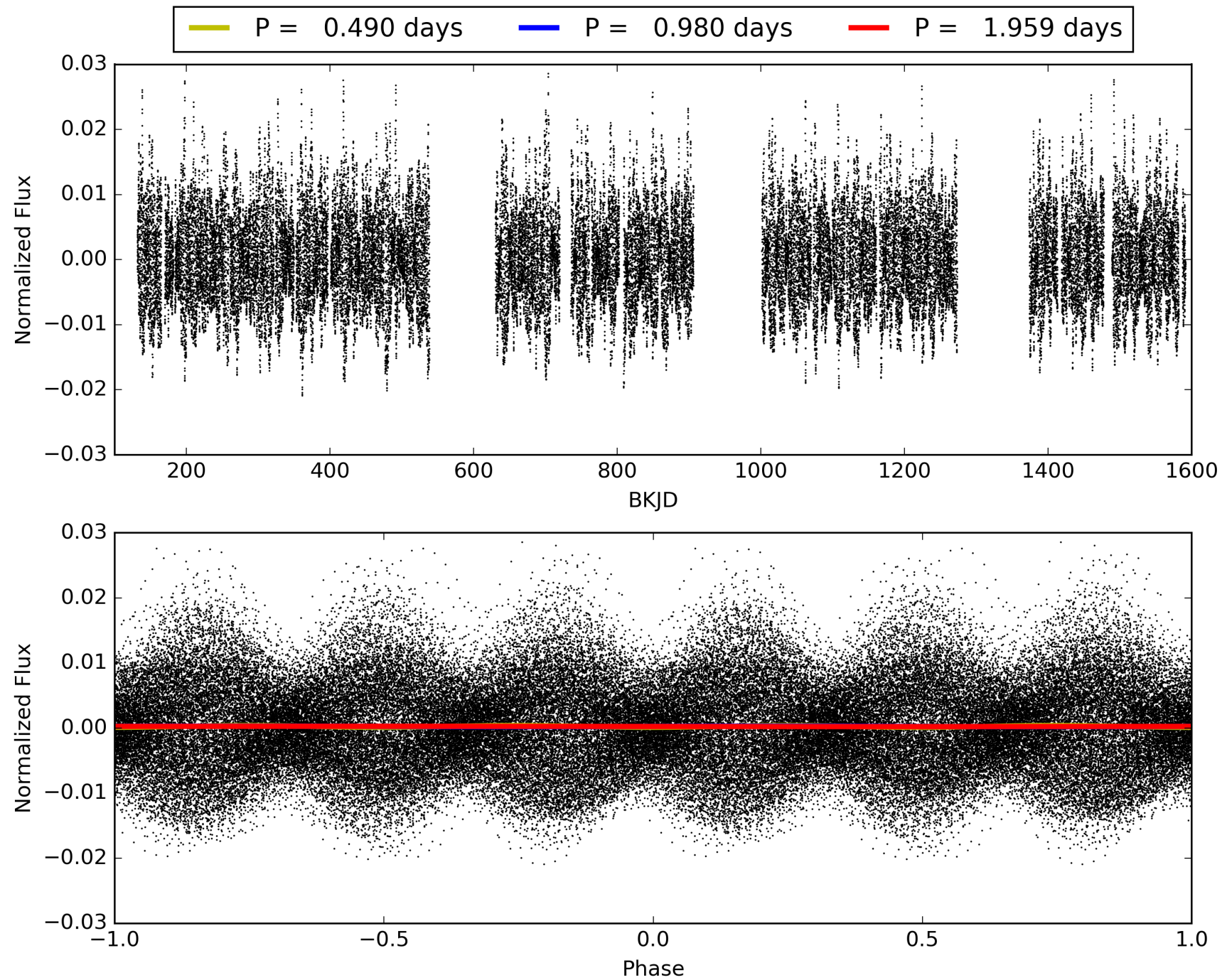
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.8% [3.07 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [1025/1041]
GhostDiagnostic-chr: 0.649
Centroid-sig: 1.3%
Centroid-so: 0.866 arcsec [1.49 σ]
OotOffset-rm: 0.021 arcsec [0.16 σ]
KicOffset-rm: 0.106 arcsec [0.79 σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.57 [8/14]
DiffImageOverlap-fno: 0.71 [10/14]

TCE 004285040-01, PDC Light Curves

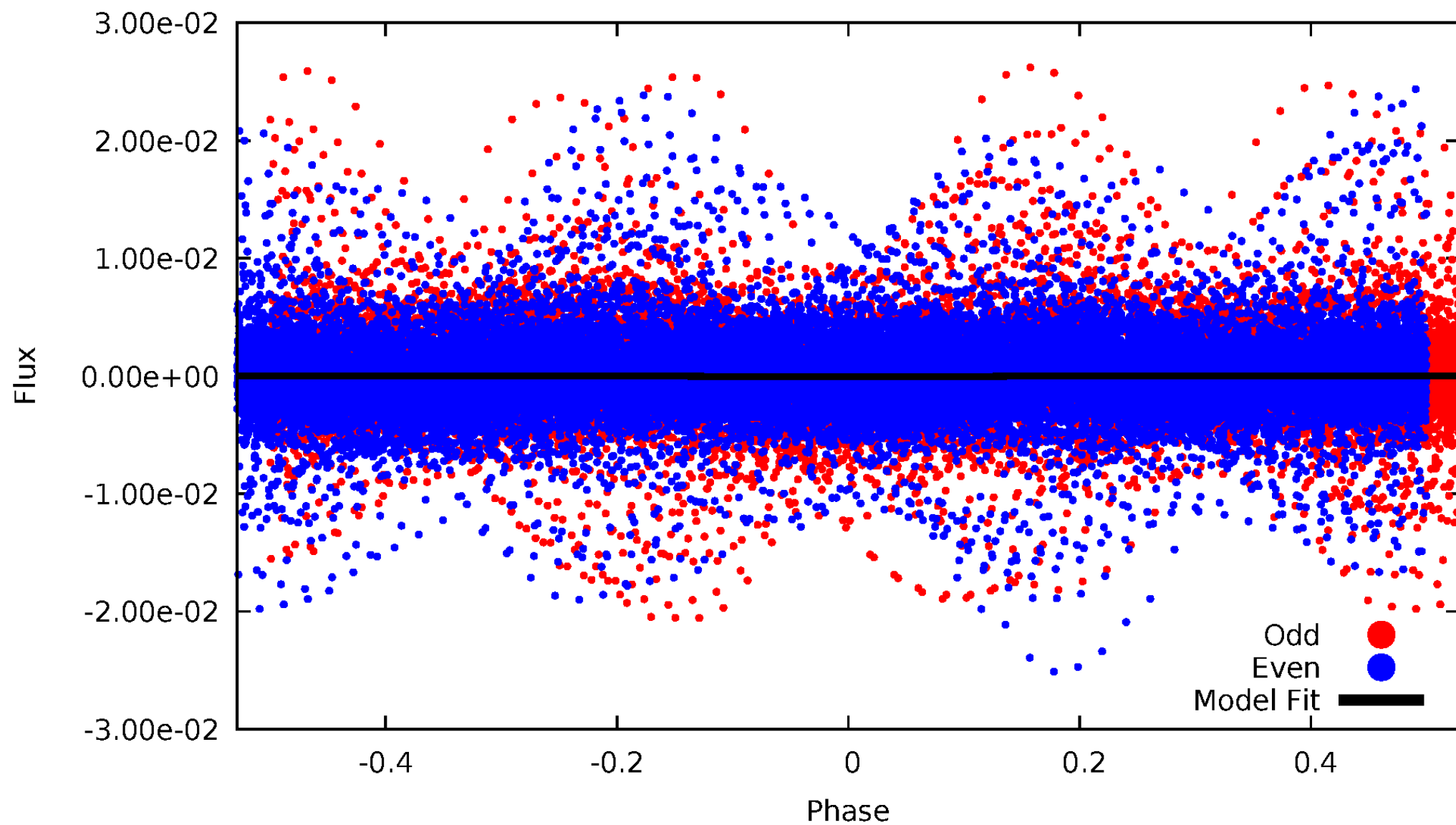


TCE 004285040-01



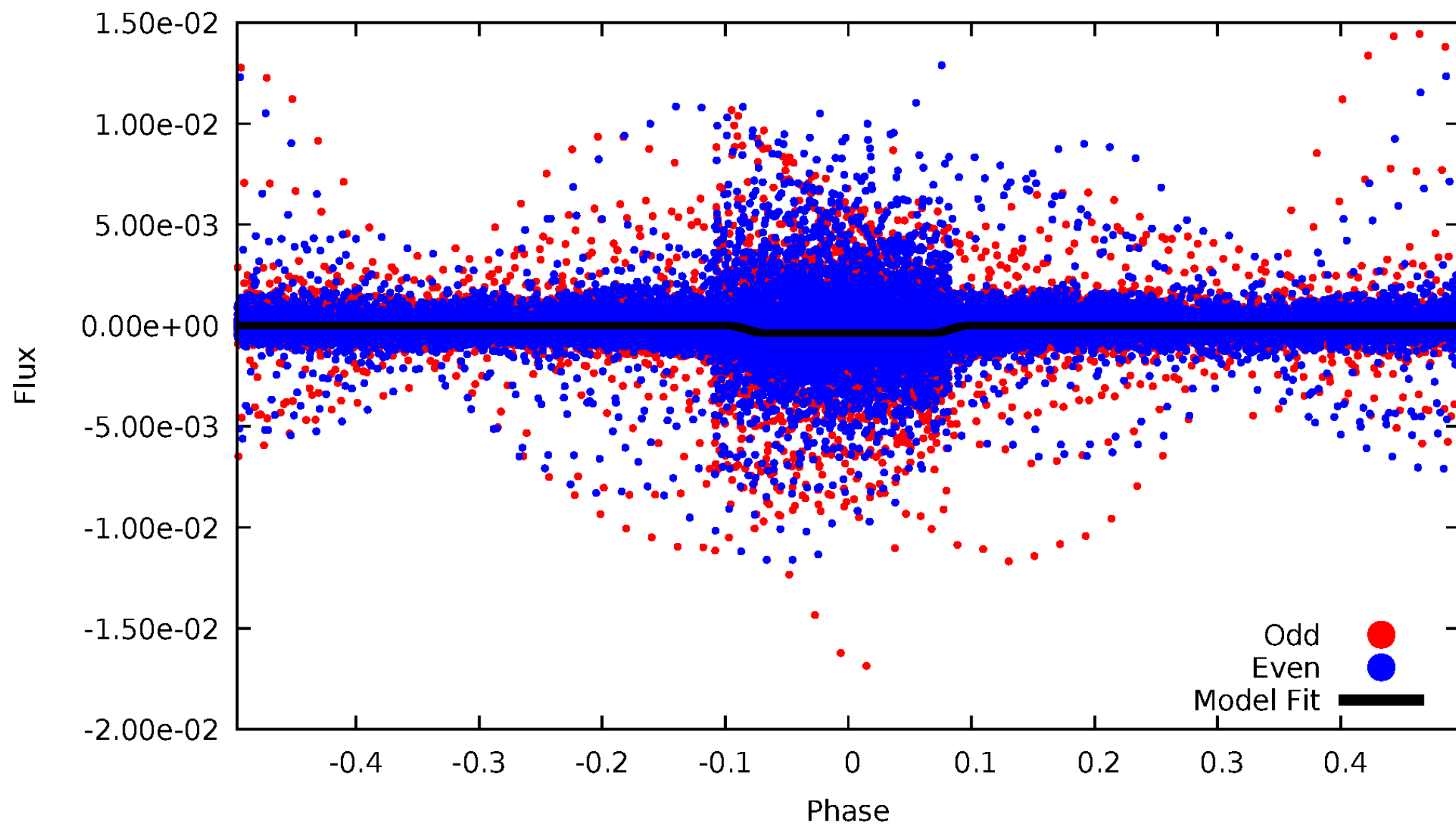
DV Odd/Even

TCE 004285040-01



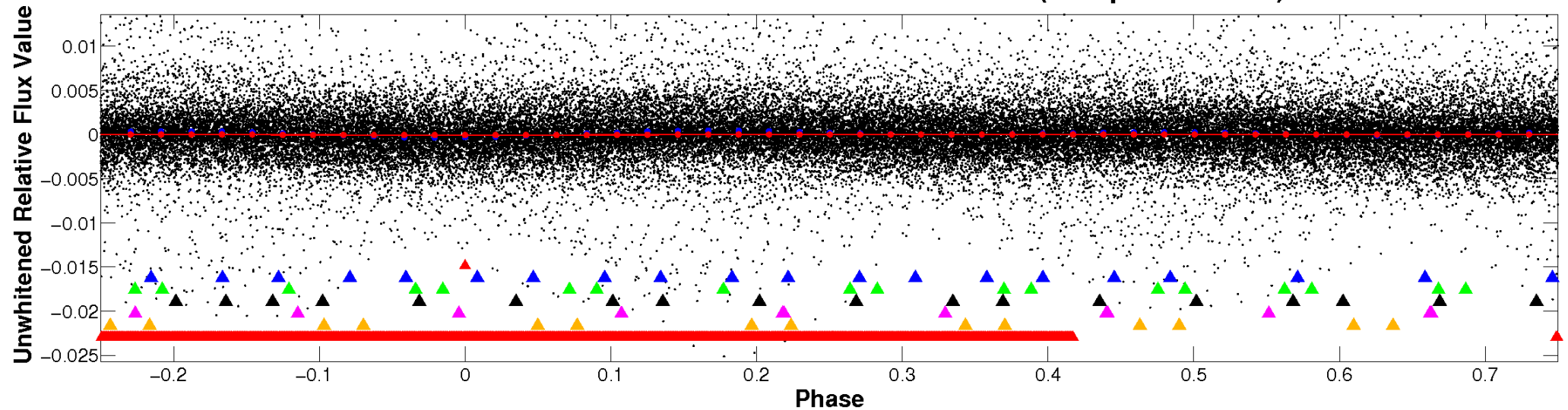
ALT Odd/Even

TCE 004285040-01

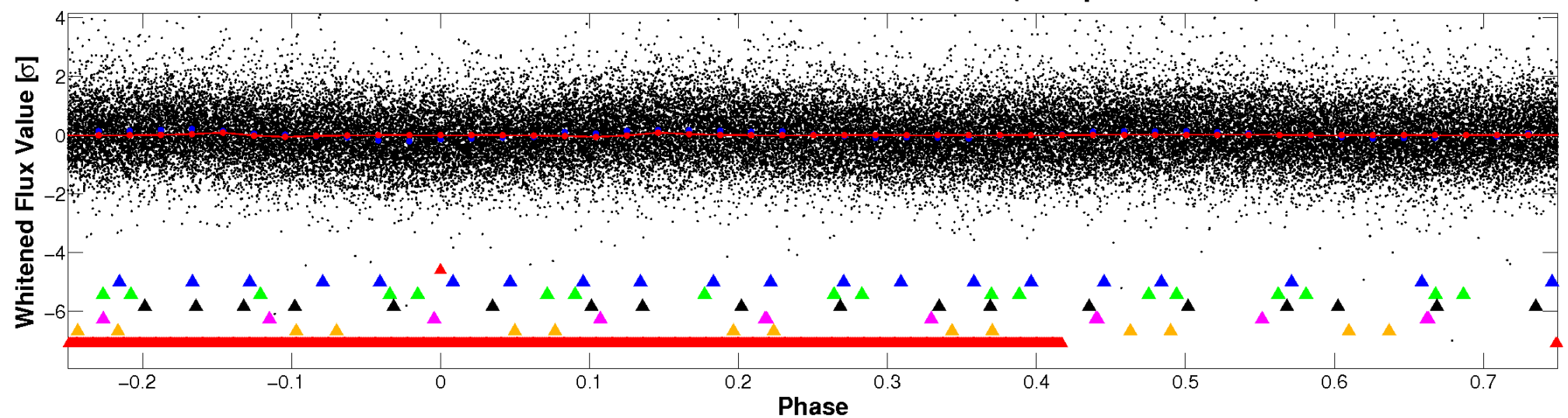


Non-Whitened Vs. Whitened Light Curve

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

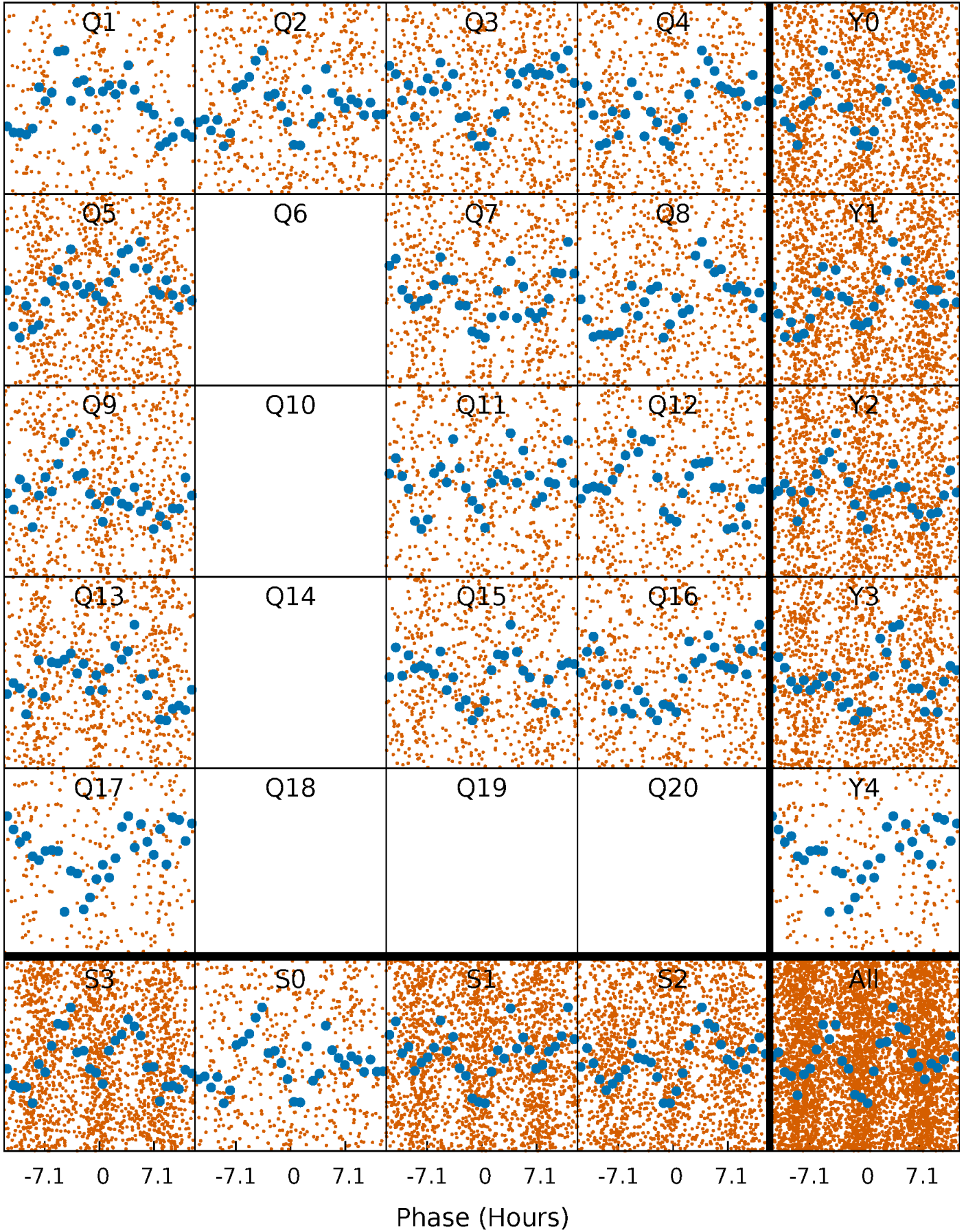


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



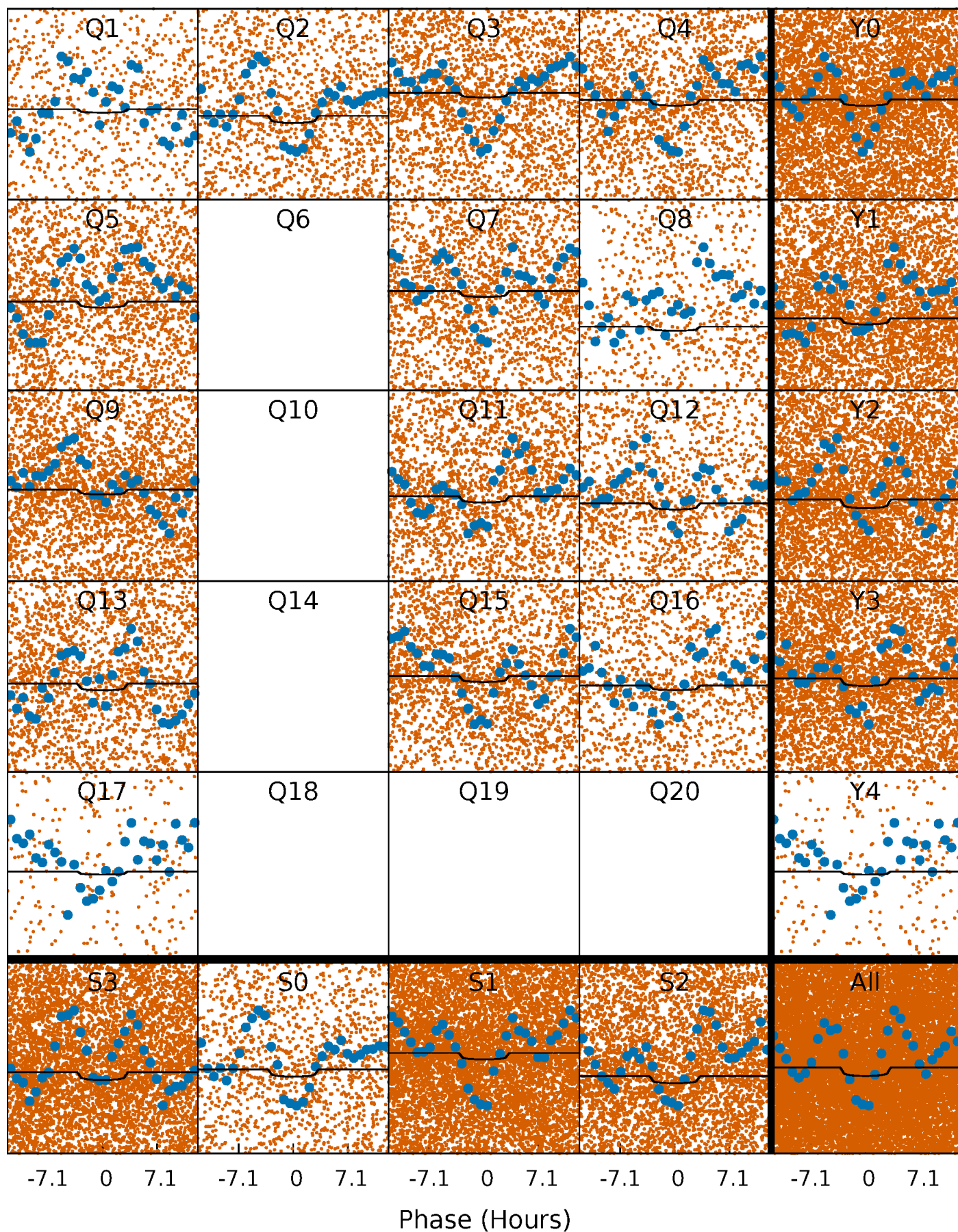
PDC Quarter-Phased Transit Curves

TCE 004285040-01 P= 0.979586 Days $T_0=131.872964$ (BKJD)



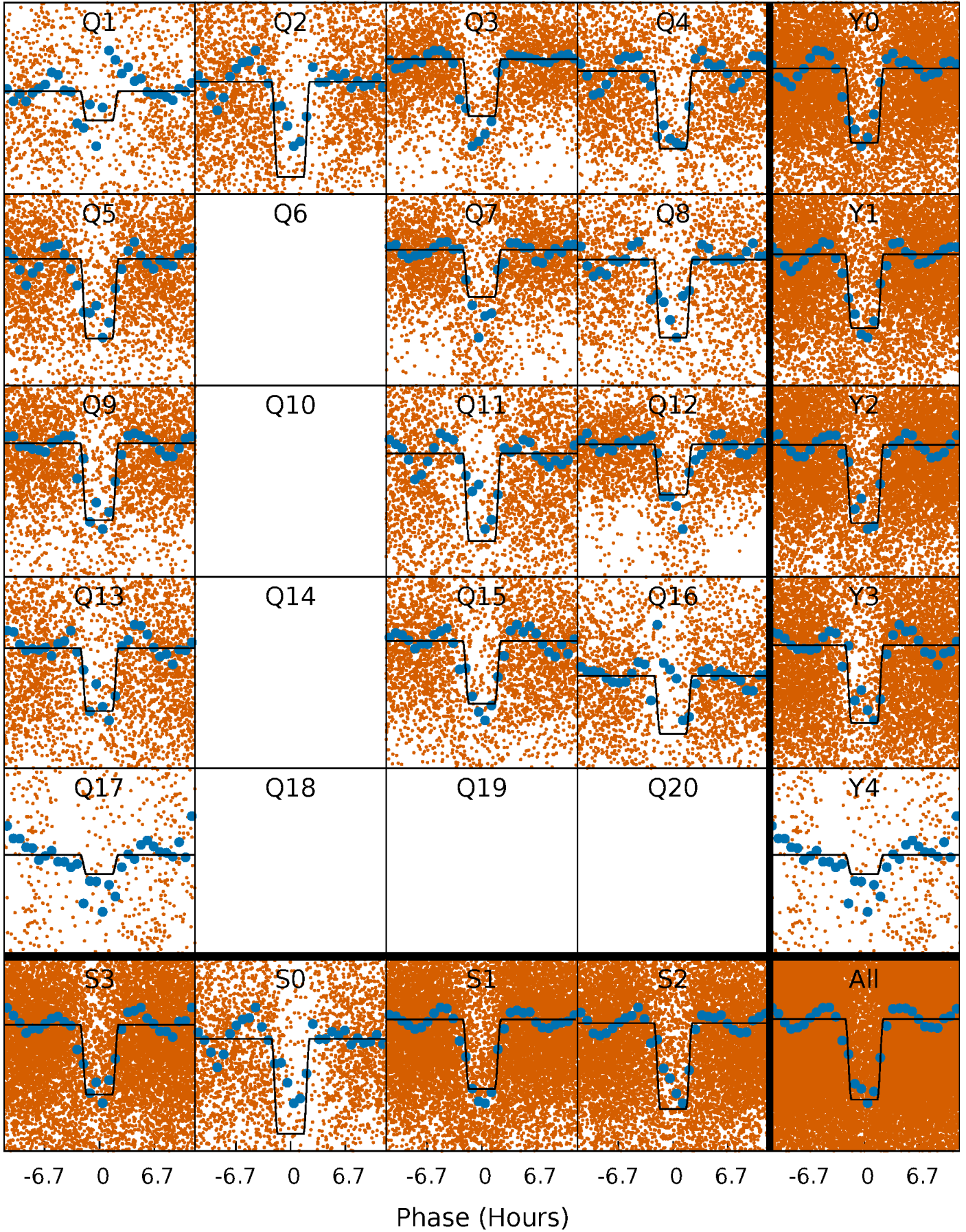
DV Quarter-Phased Transit Curves

TCE 004285040-01 P= 0.979586 Days $T_0=131.872964$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

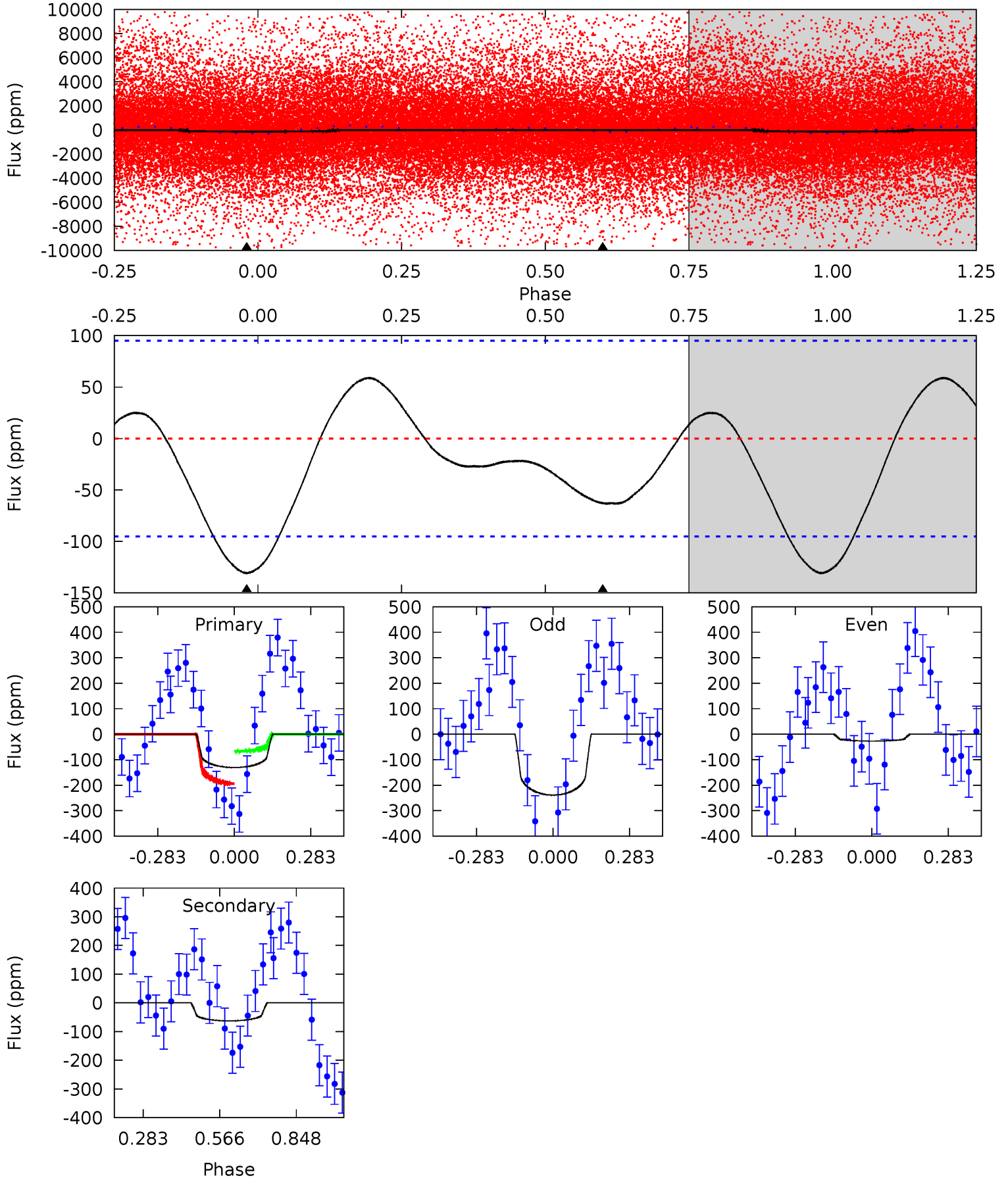
TCE 004285040-01 P= 0.979540 Days $T_0=131.893369$ (BKJD)



DV Model-Shift Uniqueness Test

004285040-01, P = 0.979586 Days, E = 130.893378 Days

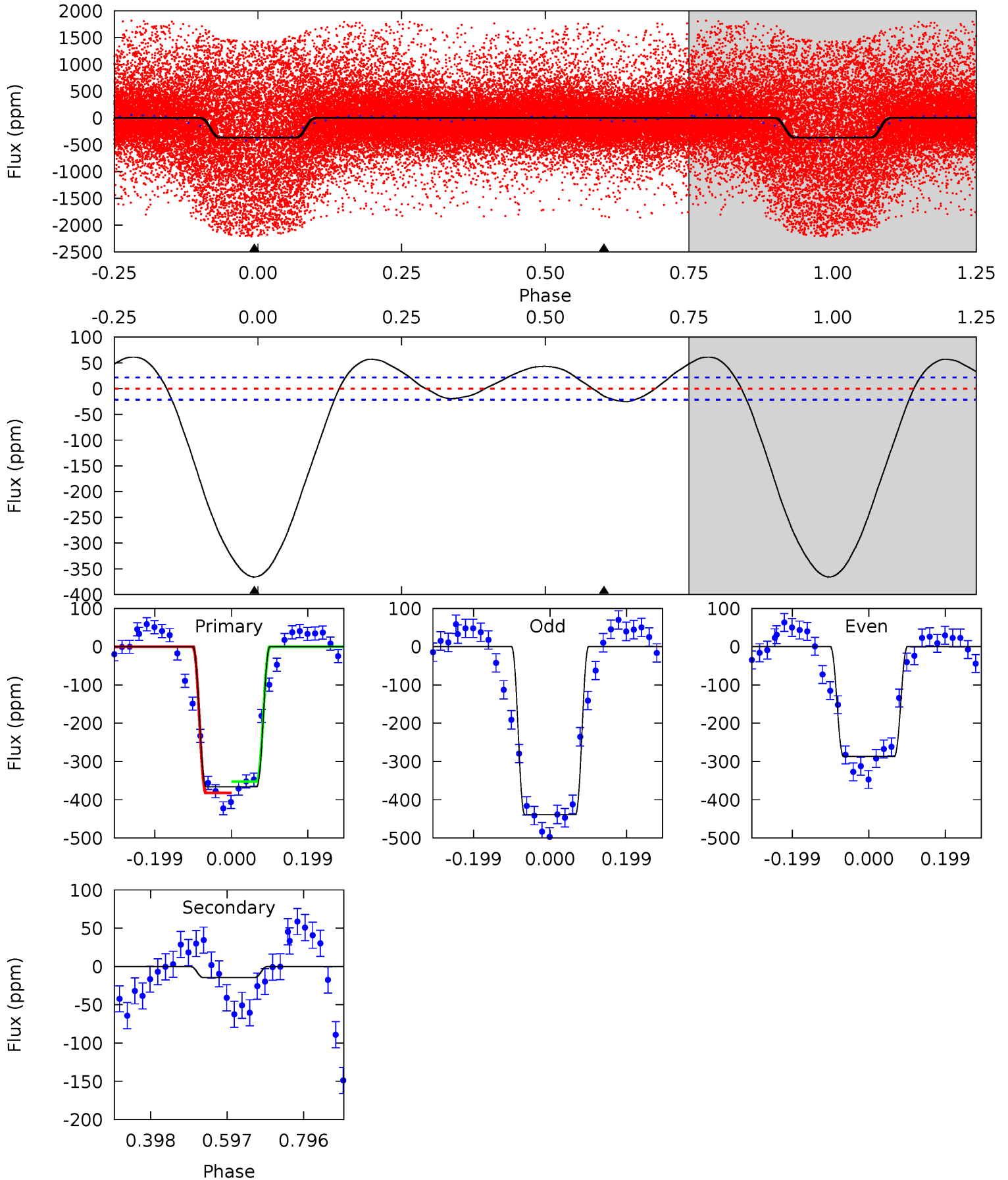
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.97	2.87	0	0	4.34	1.07	0.87	5.97	5.97	2.87	2.87	4.83	0.88	0.31	2.83



Alt Model-Shift Uniqueness Test

004285040-01, P = 0.979540 Days, E = 130.913829 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
74.9	2.98	0	0	4.42	1.28	5.44	74.9	74.9	2.98	2.98	15.6	1.03	0.14	2.86



Stellar Parameters For KIC 004285040

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7701^{+214}_{-322}	$3.862^{+0.308}_{-0.103}$	$-0.020^{+0.200}_{-0.350}$	$2.703^{+0.436}_{-1.017}$	$1.939^{+0.110}_{-0.467}$	$0.138^{+0.289}_{-0.046}$
	+3%/-4%	+8%/-3%	+1000%/-1750%	+16%/-38%	+6%/-24%	+209%/-34%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004285040-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-63 ± 22	$2.12^{+0.87}_{-0.81}$	4925^{+323}_{-515}	7489^{+2904}_{-1418}	$4.246^{+7.672}_{-2.275}$
Alt.	-15 ± 5	$5.32^{+1.17}_{-1.15}$	4912^{+344}_{-445}	-3681^{+856}_{-353}	$0.157^{+0.109}_{-0.063}$

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 $A_{obs} \gg 1.0$

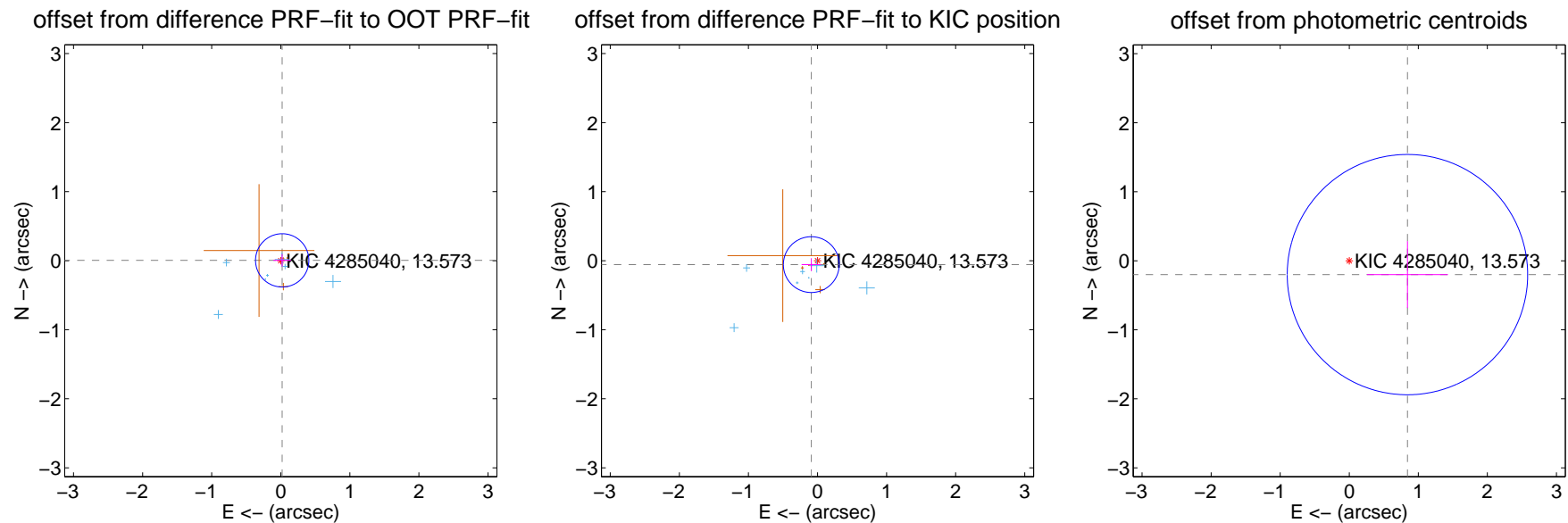
DV Centroid Data

Supplemental centroid analysis for 004285040-01. Kepler magnitude: 13.57. Transit SNR 5.81

There are 8 quarters with good PRF difference image offsets

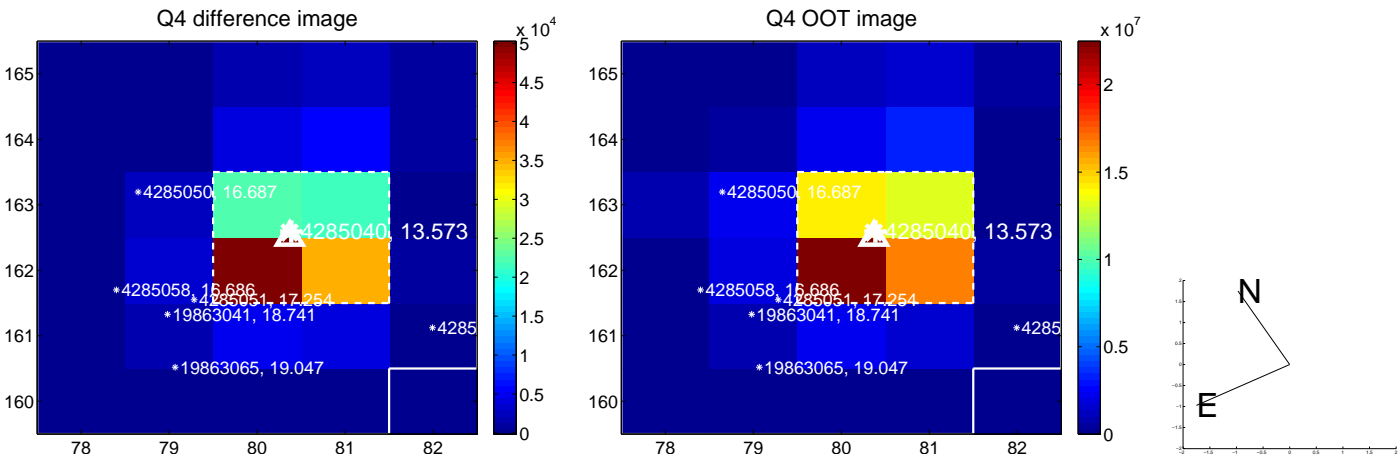
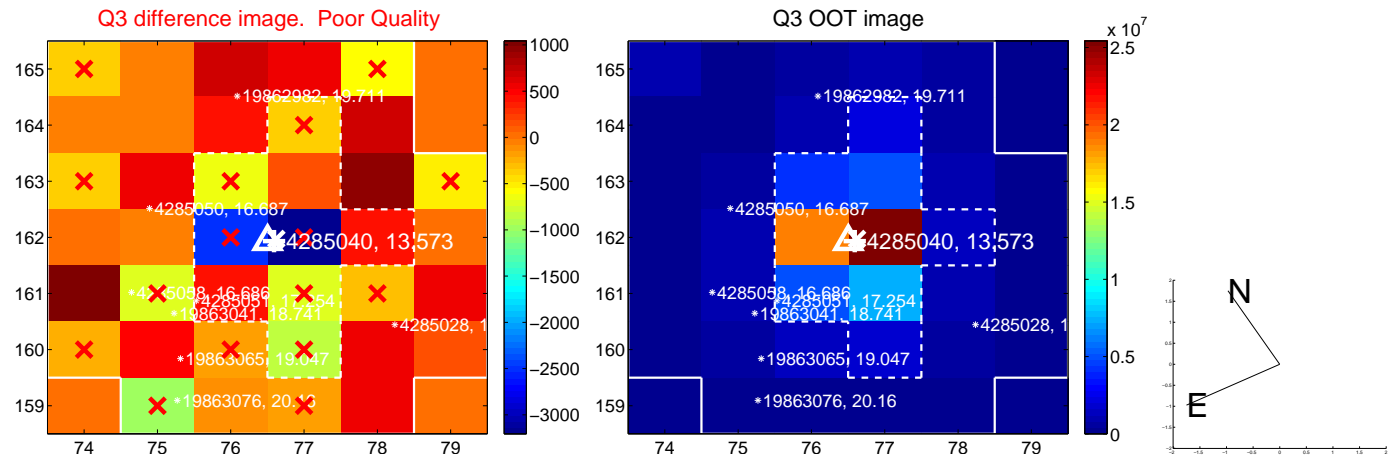
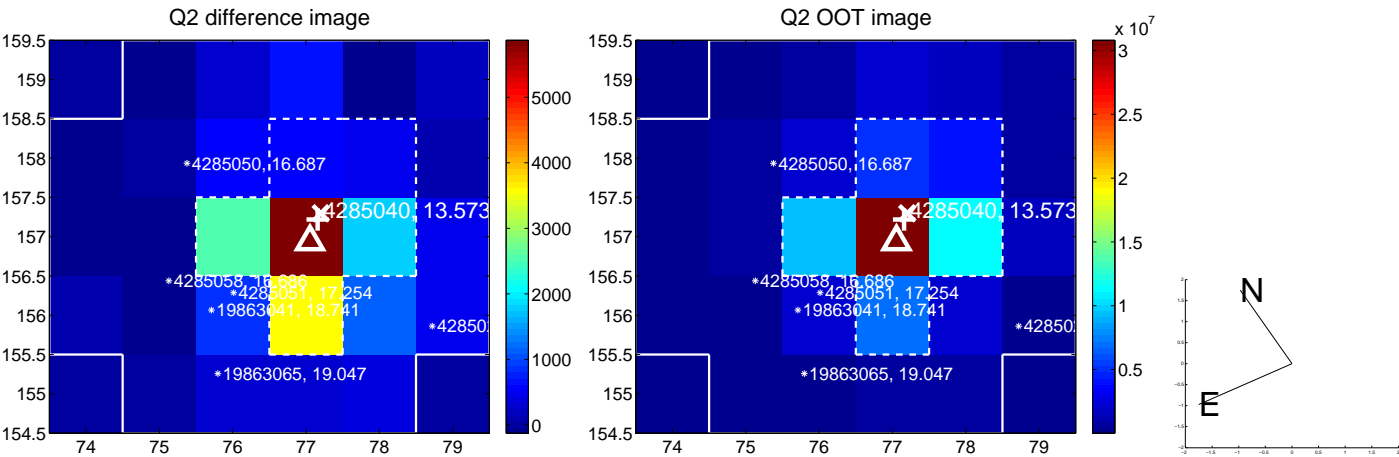
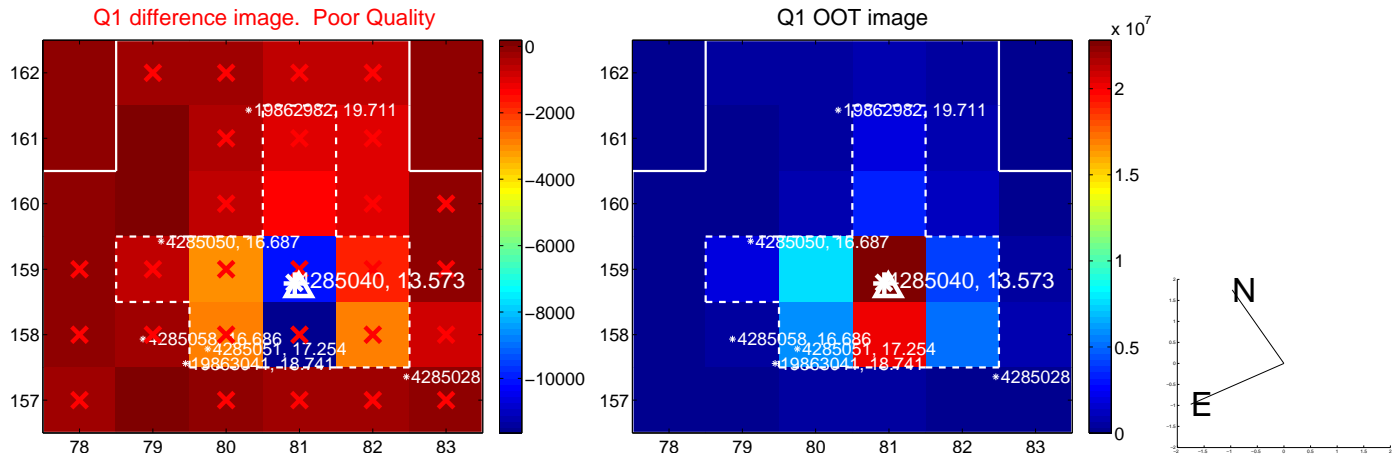
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.021 ± 0.129	0.16	-0.021 ± 0.127	0.005 ± 0.091
PRF-fit source offset from KIC position	0.106 ± 0.135	0.79	0.090 ± 0.140	-0.057 ± 0.093
photometric centroid source offset	0.87 ± 0.58	1.49	-0.84 ± 0.59	-0.20 ± 0.48

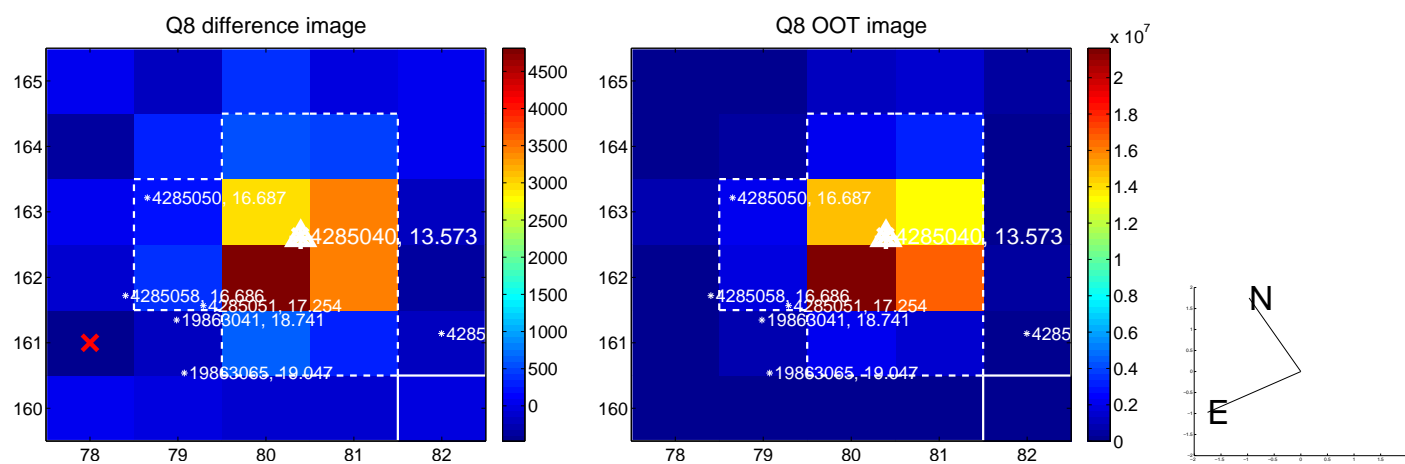
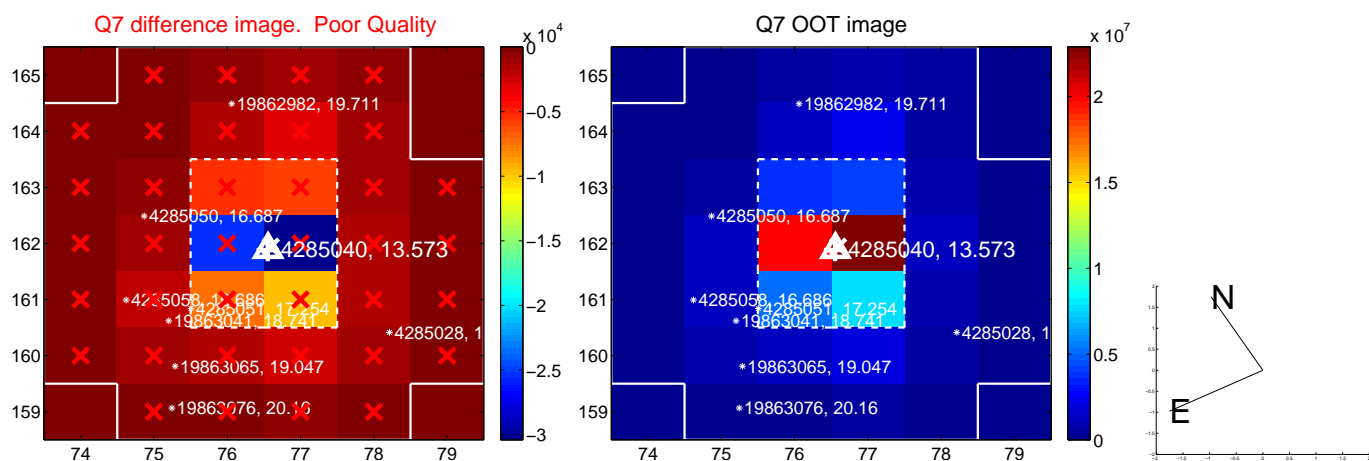
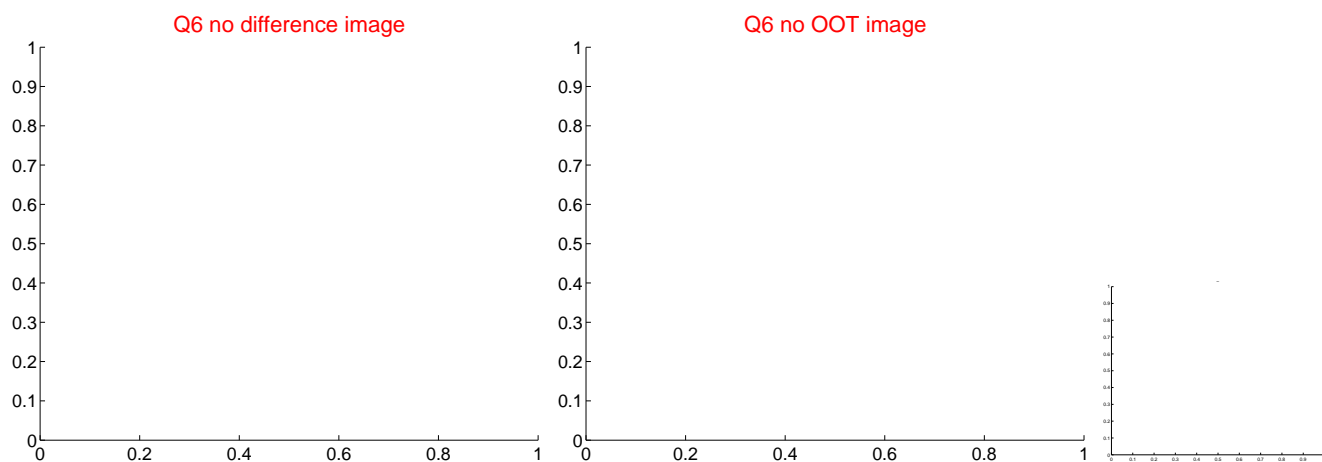
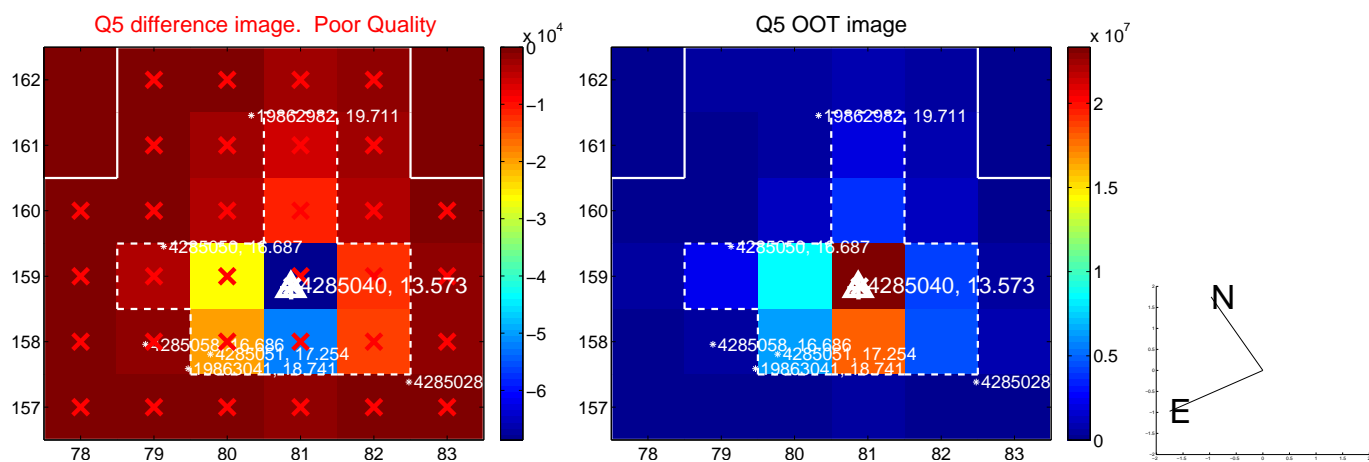


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

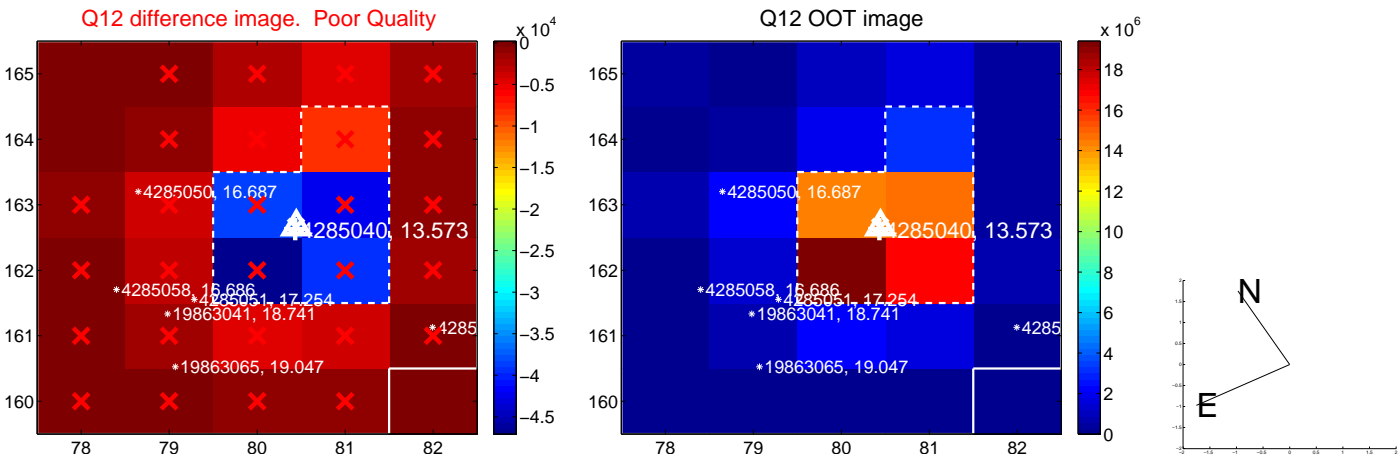
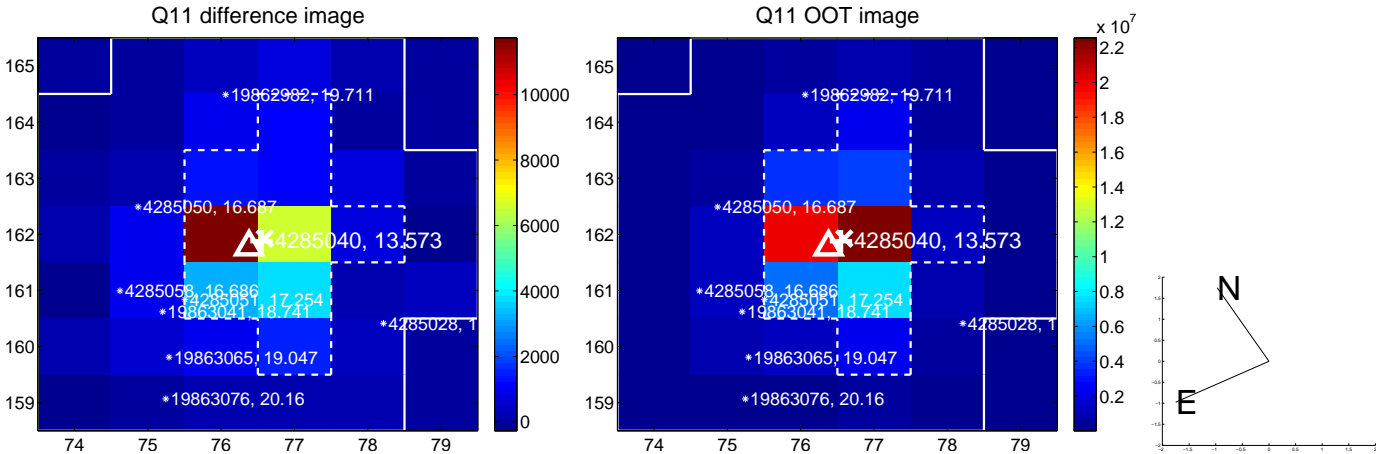
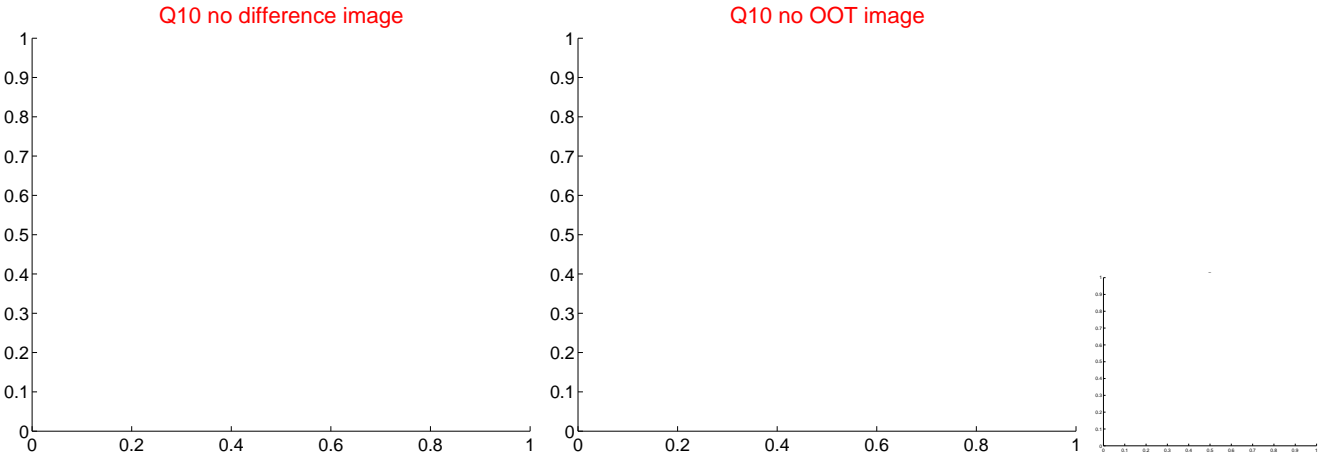
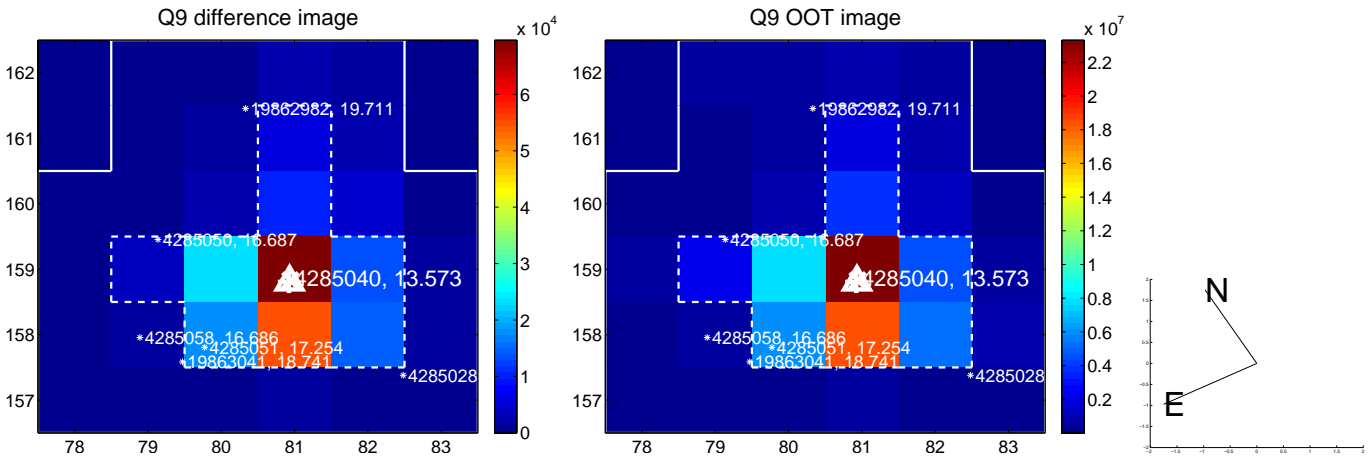
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



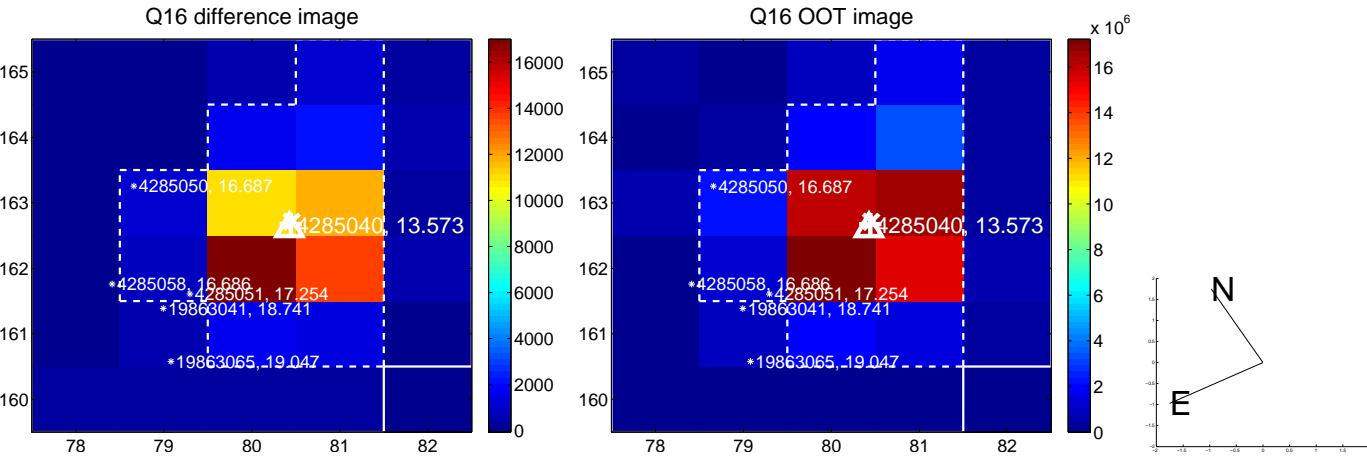
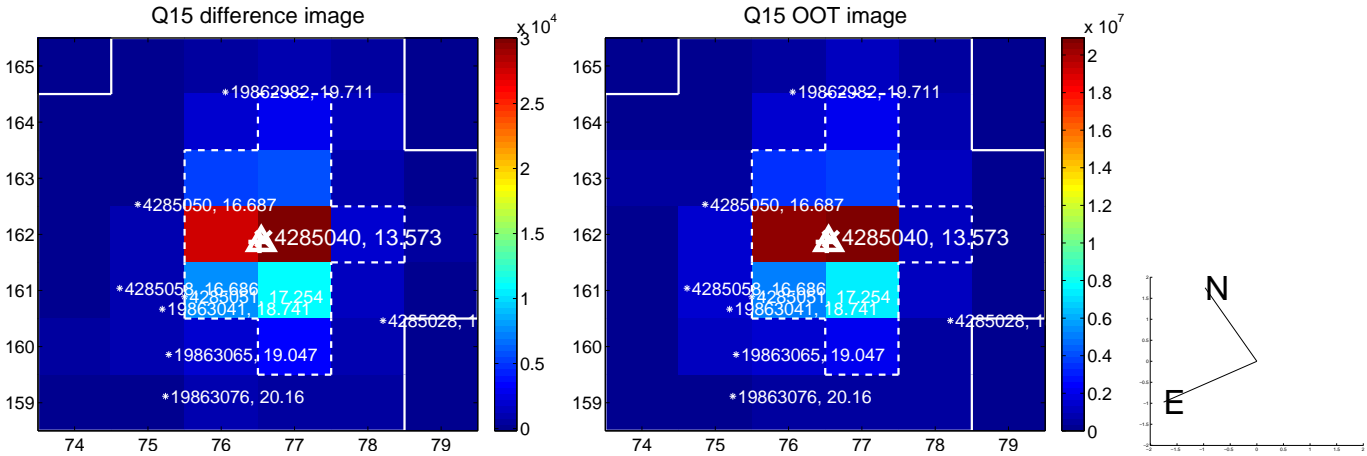
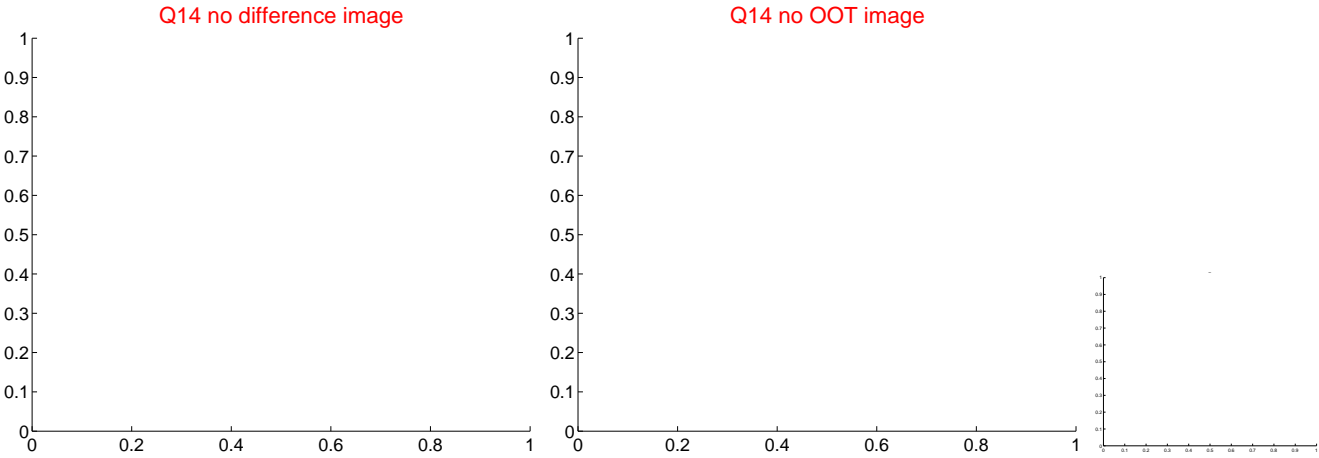
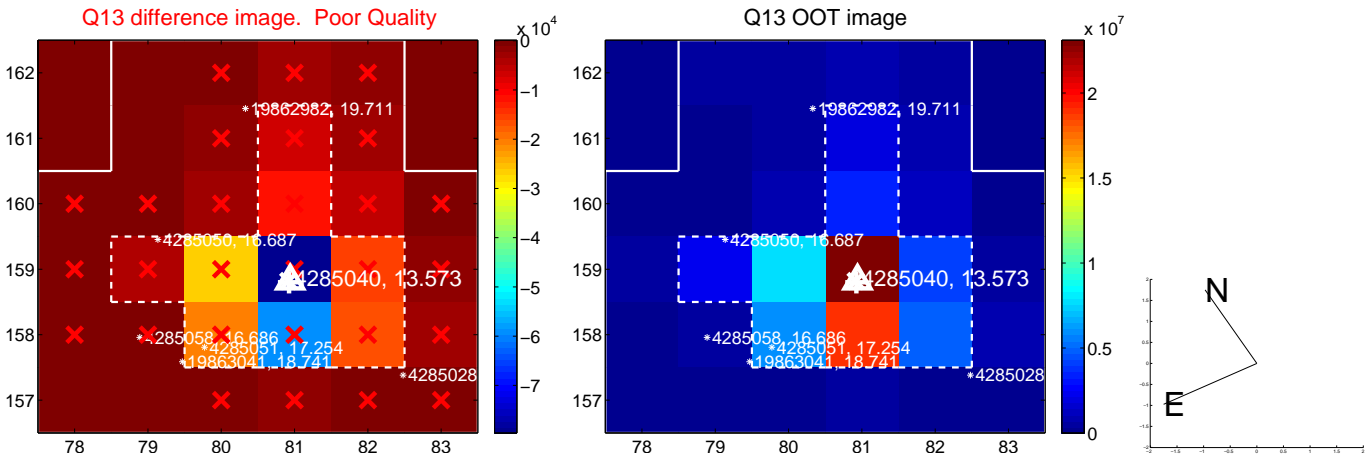
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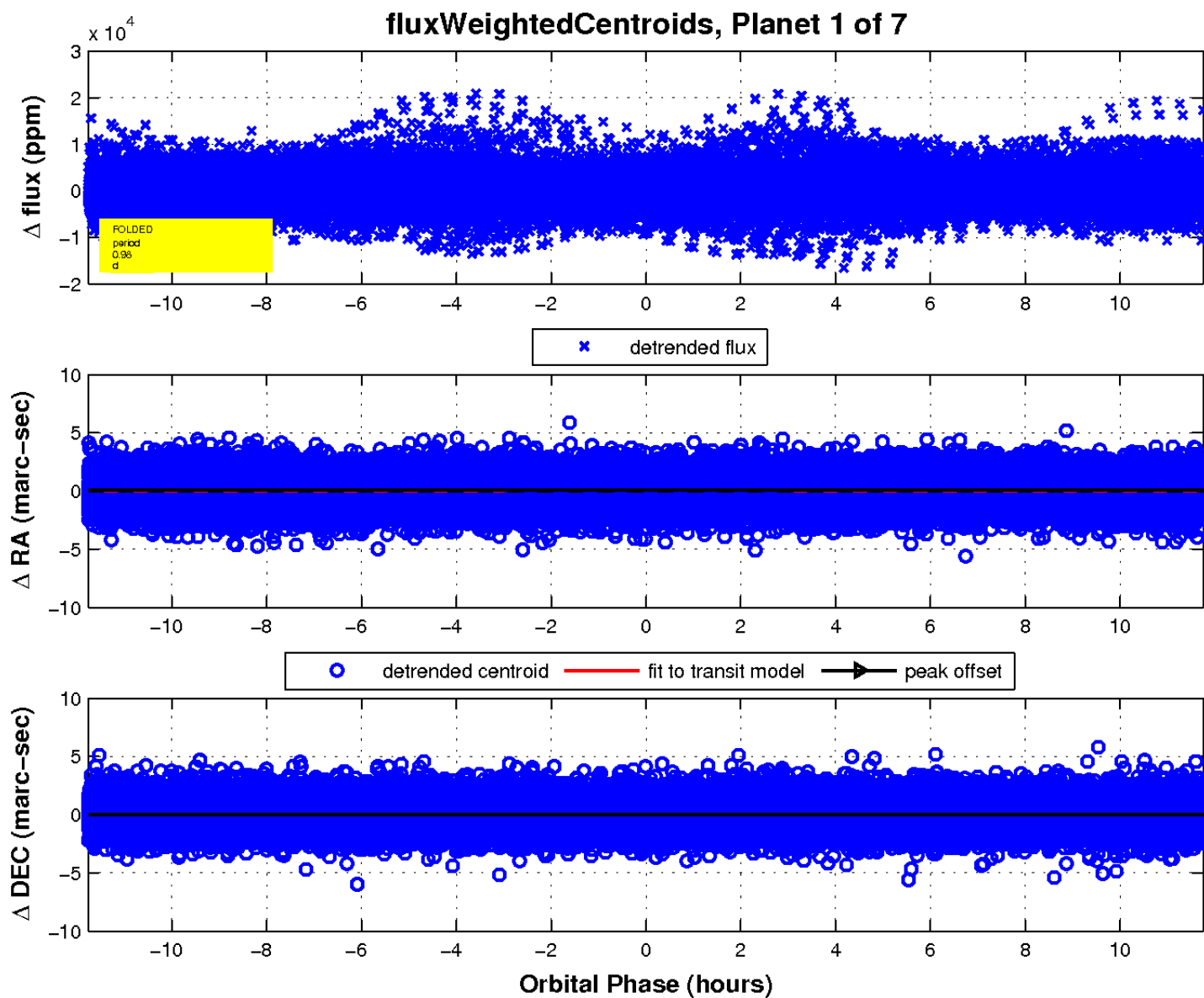
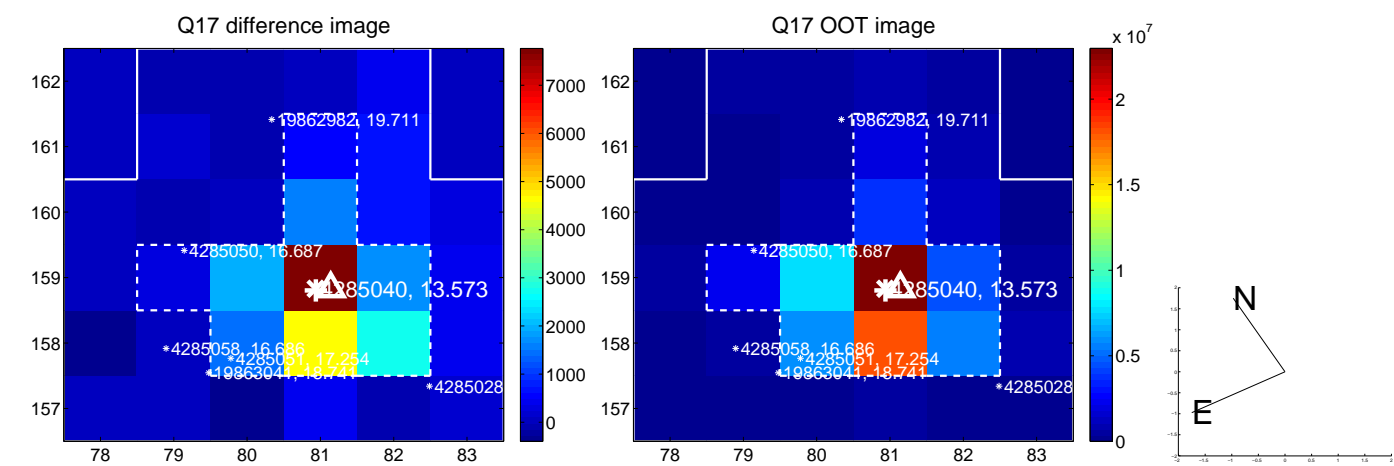
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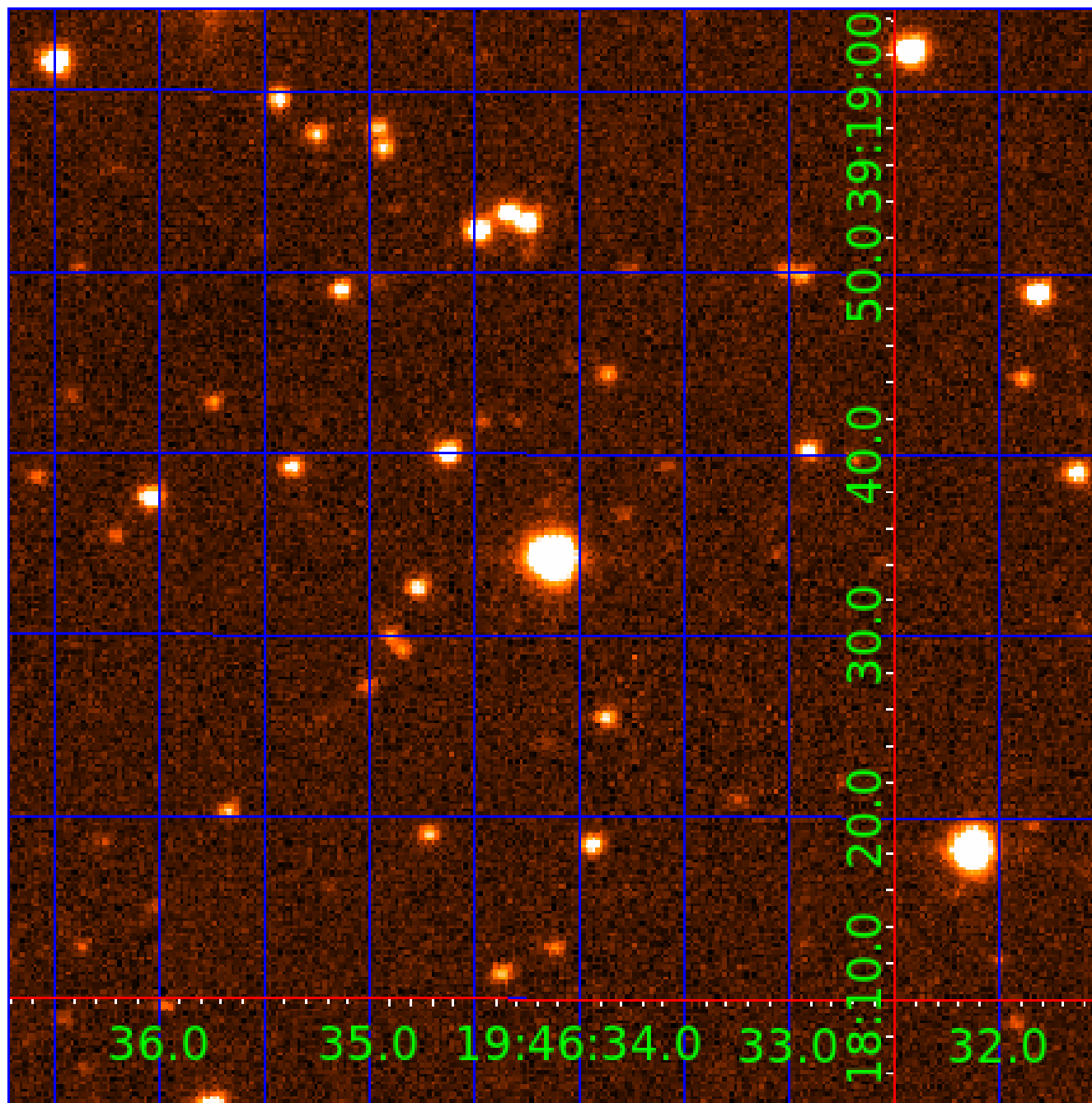


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UKIRT Image

Declination



KIC 004285040

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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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004285040-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES
004285040-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT
004285040-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST
004285040-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
004285040-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—CENT_NOFITS

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

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

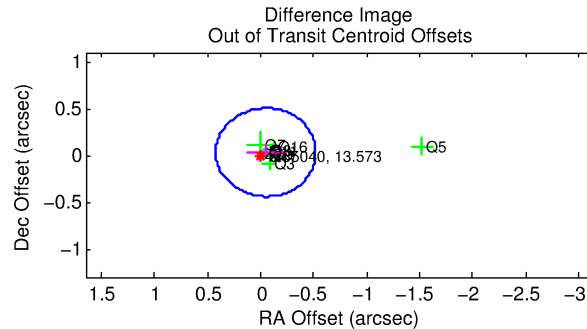
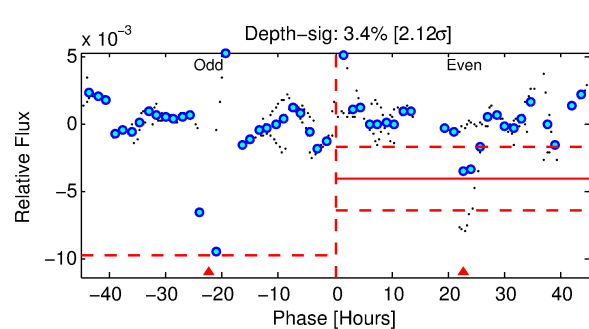
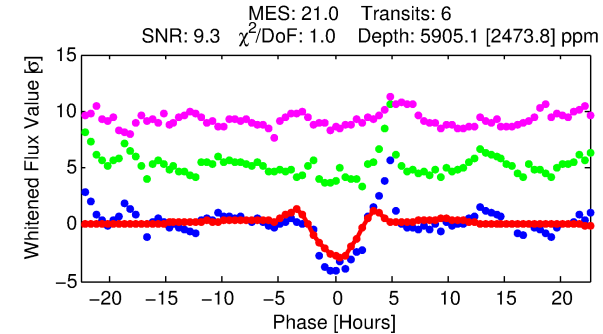
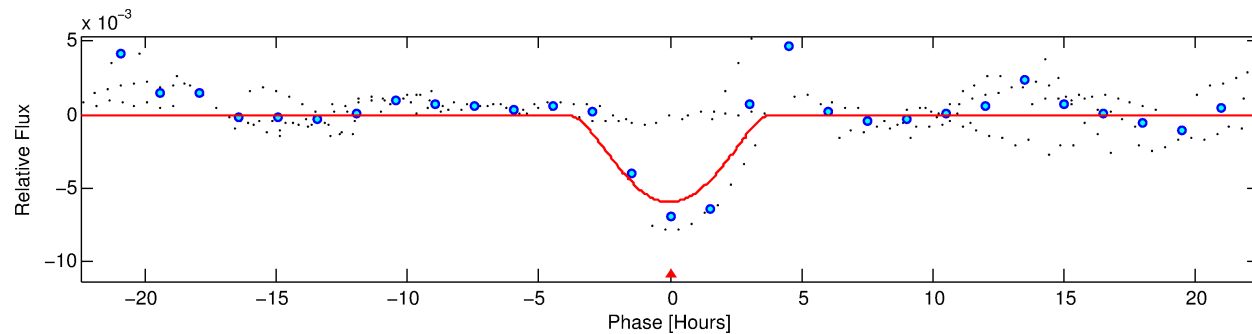
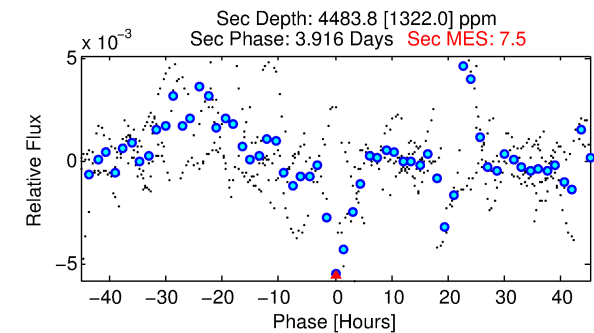
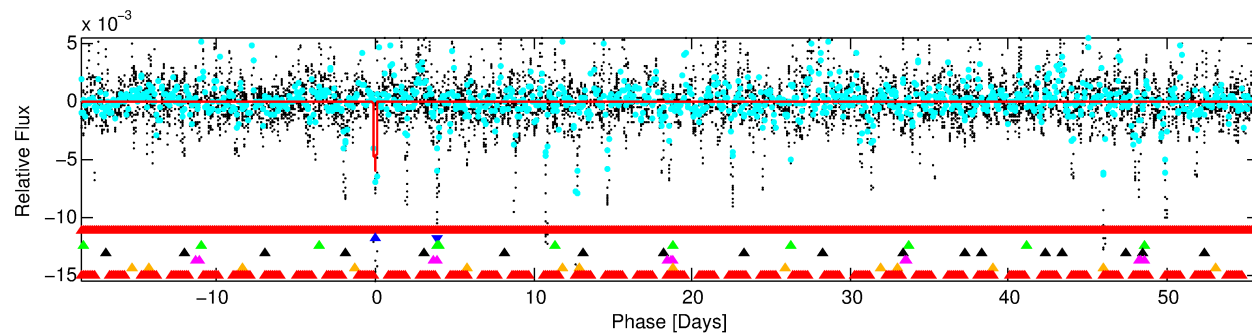
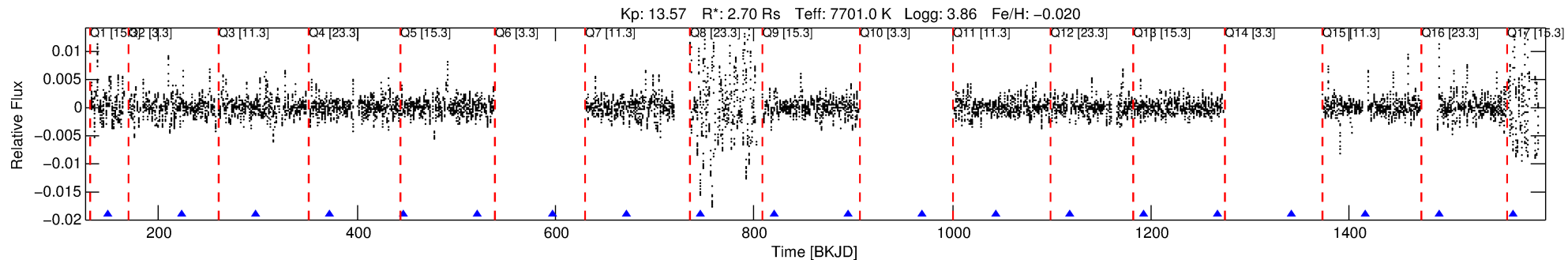
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004285040-02

No Significant Match Found

DV One-Page Summary

KIC: 4285040 Candidate: 2 of 7 Period: 74.534 d



DV Fit Results:

Period = 74.53419 [0.00120] d
Epoch = 149.2945 [0.0138] BKJD
Rp/R* = 0.1247 [0.2043]
a/R* = 39.11 [11.90]
b = 1.00 [0.26]
Seff = 123.17 [69.07]
Teq = 849 [119] K
Rp = 36.77 [61.82] Re
a = 0.4323 [0.1490] AU
Ag = 341.00 [1136.80] [0.30σ]
Teffp = 5644 [4649] K [1.03σ]

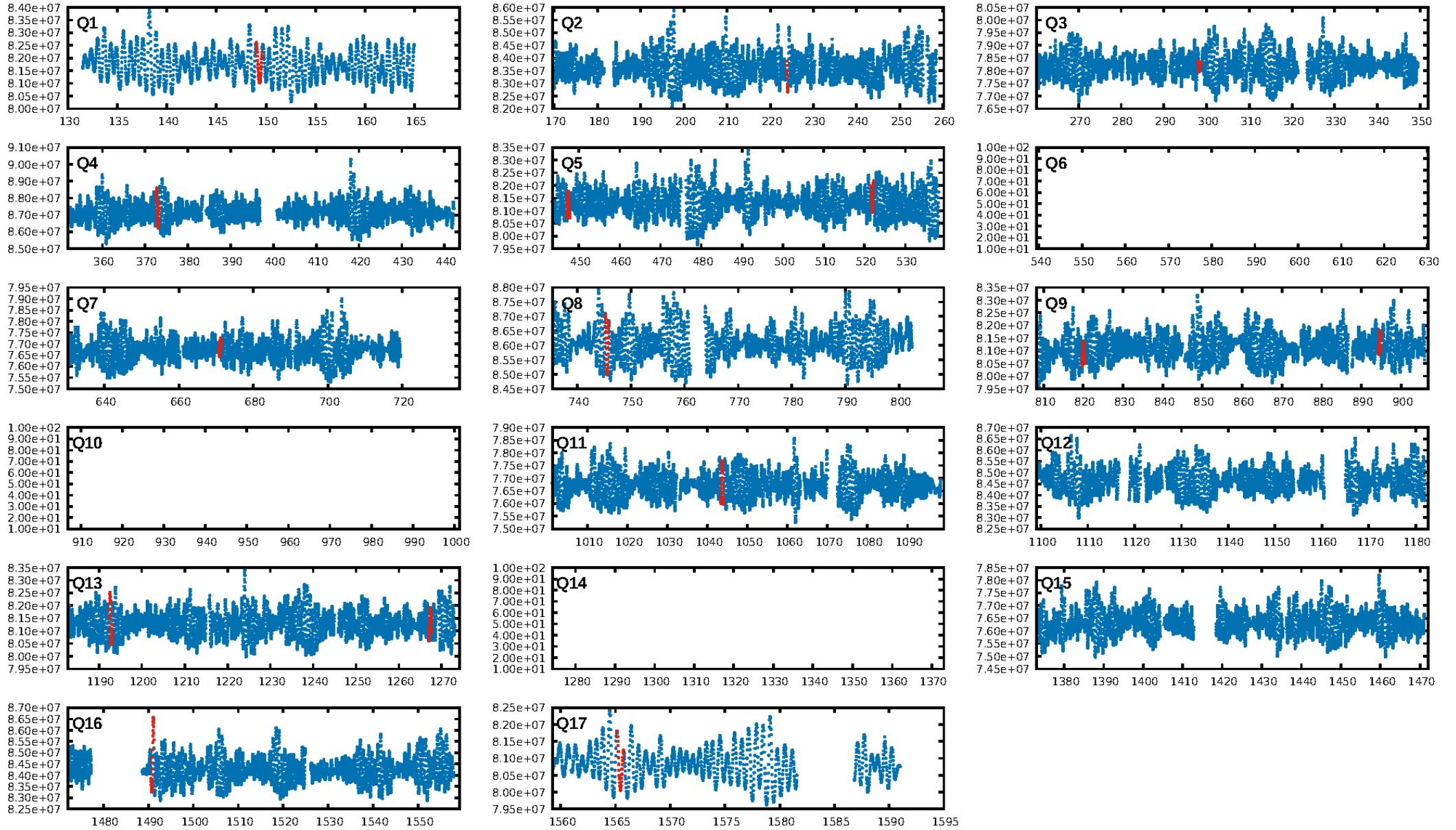
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [199.22σ]
LongPeriod-sig: 100.0% [13.43σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.8066
Centroid-sig: 31.7%
Centroid-so: 0.140 arcsec [2.01σ]
OotOffset-rm: 0.057 arcsec [0.37σ]
KicOffset-rm: 0.040 arcsec [0.45σ]
OotOffset-st: 0/3/2/4 [9]
KicOffset-st: 0/3/2/4 [9]
DiffImageQuality-fgm: 0.56 [5/9]
DiffImageOverlap-fno: 0.00 [0/9]

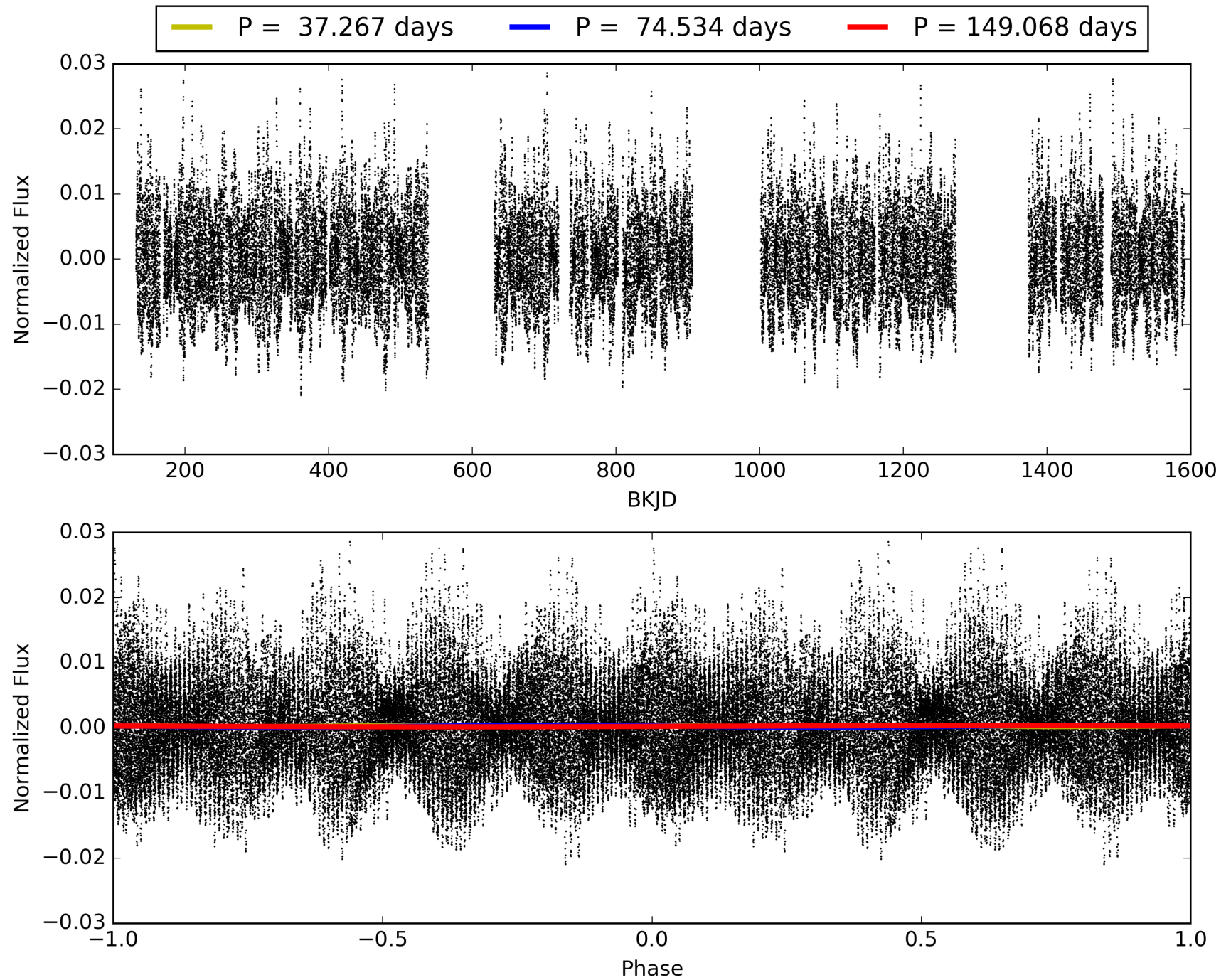
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:45:14 Z

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

TCE 004285040-02, PDC Light Curves

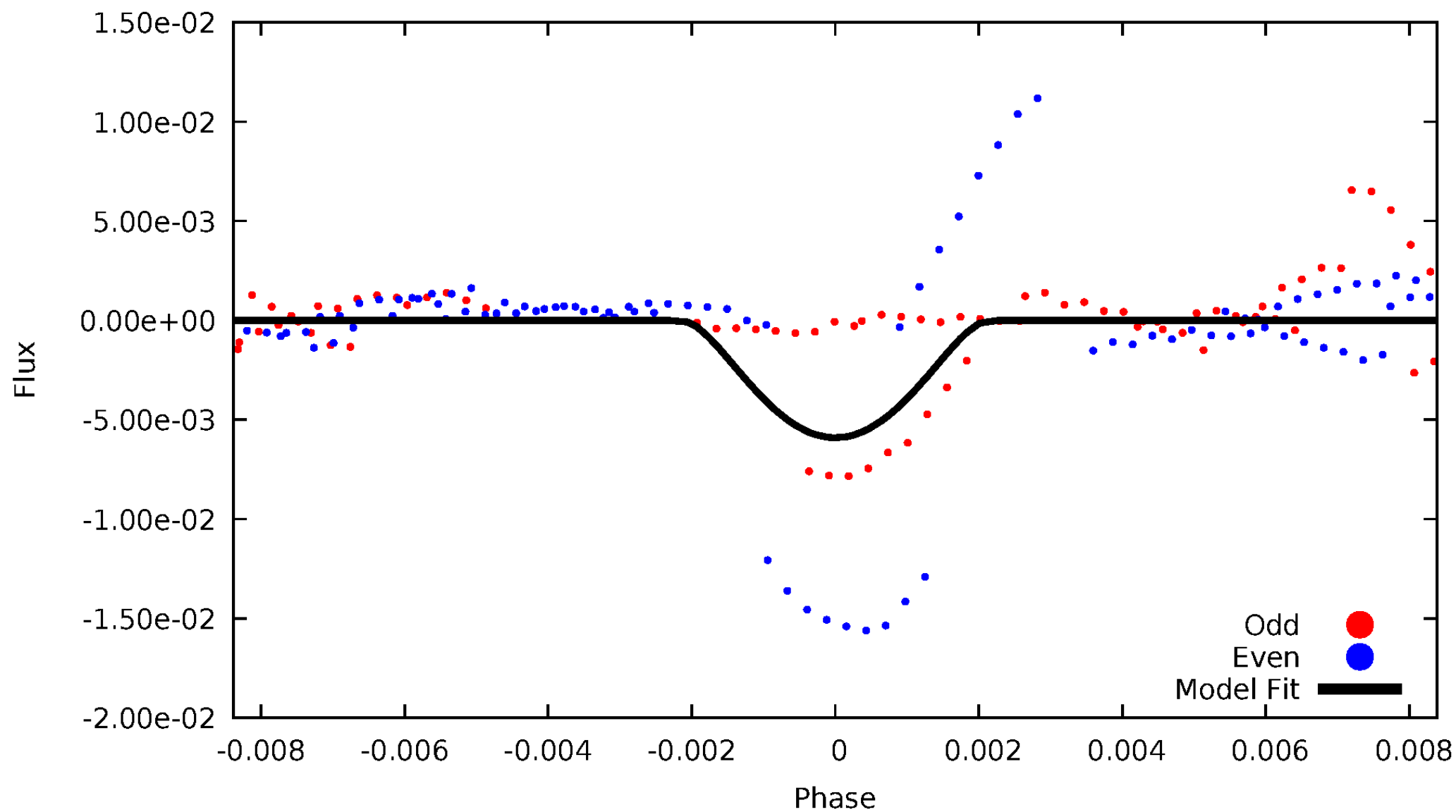


TCE 004285040-02



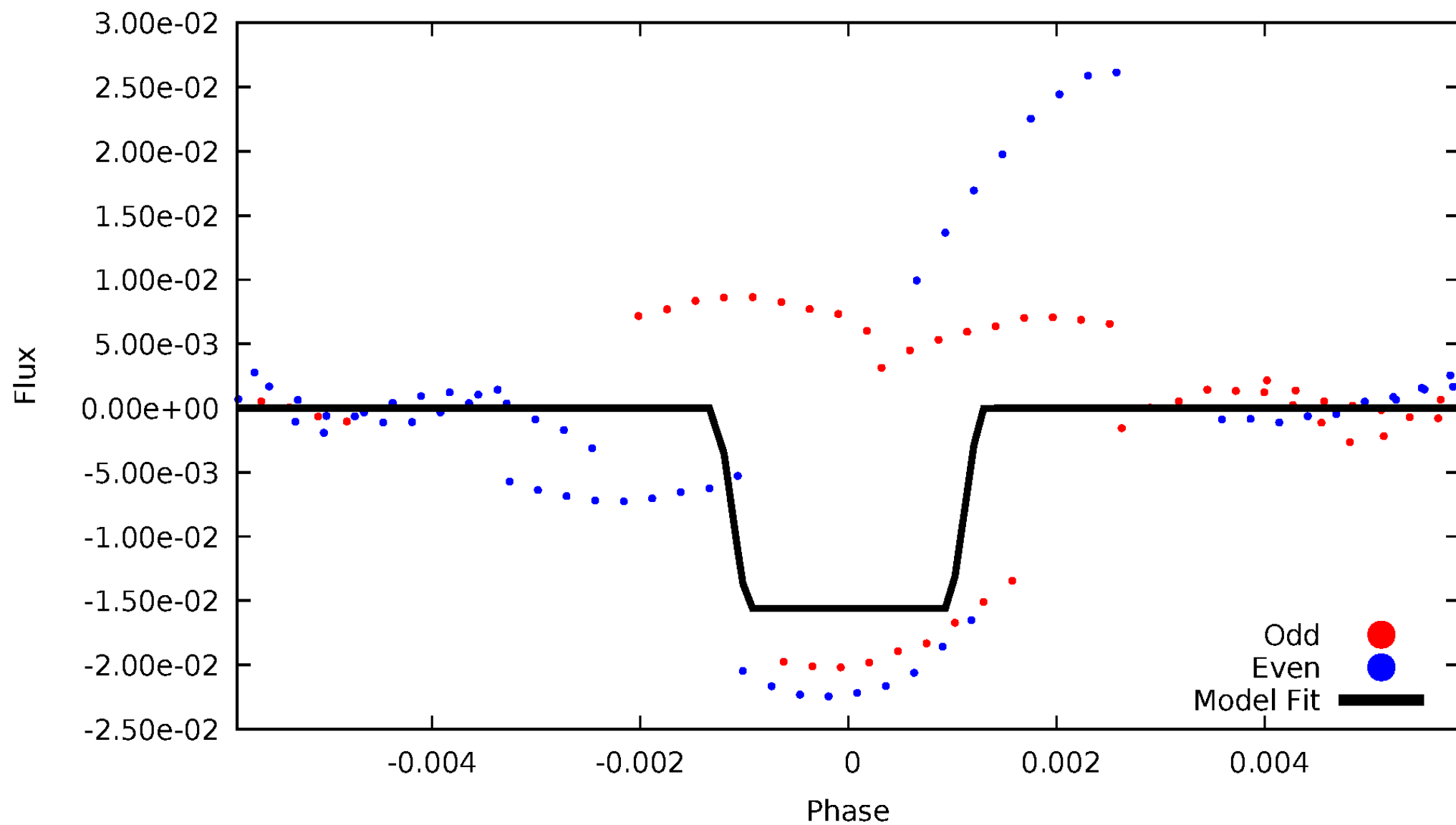
DV Odd/Even

TCE 004285040-02



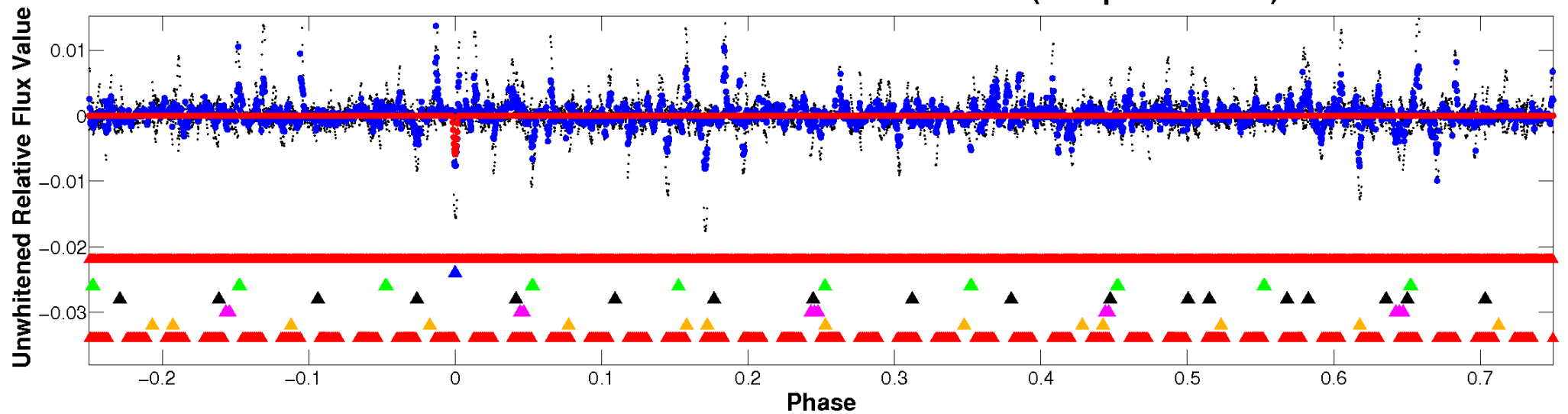
ALT Odd/Even

TCE 004285040-02

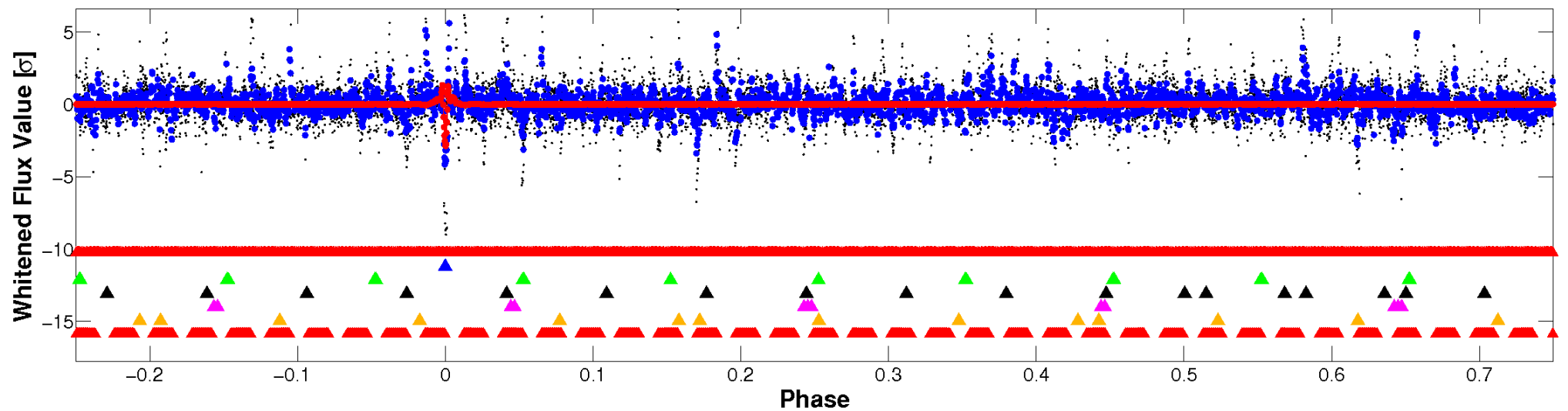


Non-Whitened Vs. Whitened Light Curve

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

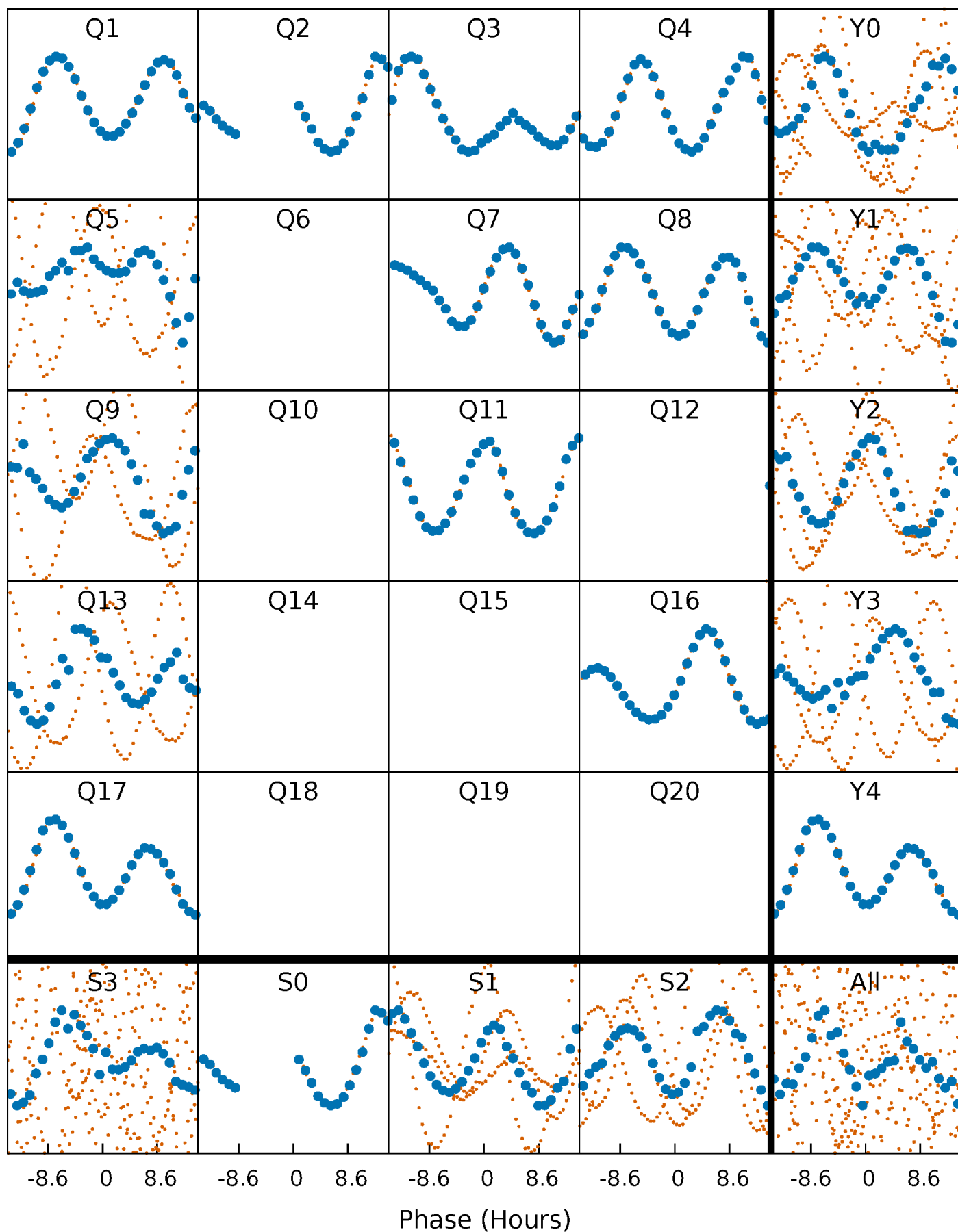


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



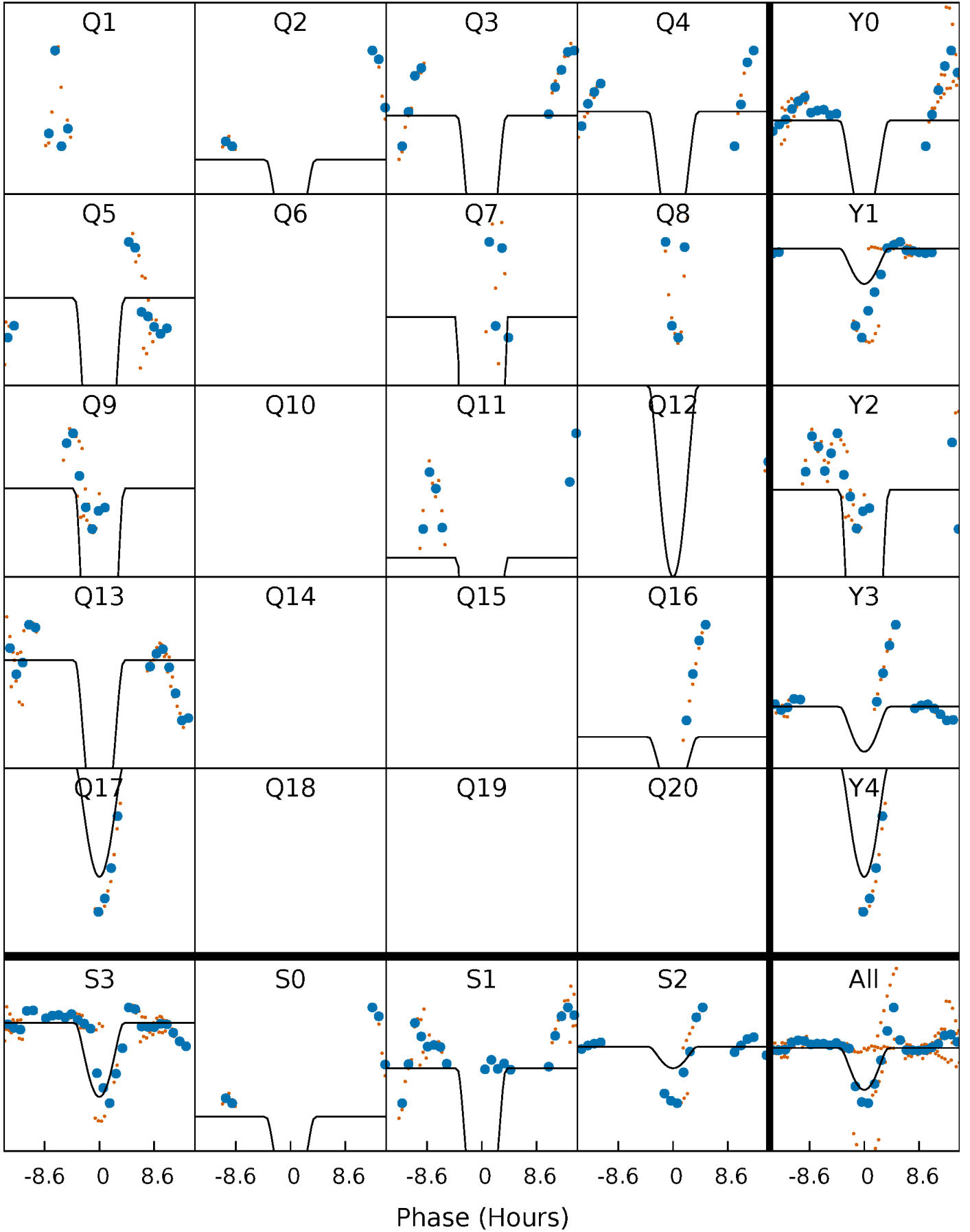
PDC Quarter-Phased Transit Curves

TCE 004285040-02 P= 74.534187 Days $T_0=149.294479$ (BKJD)



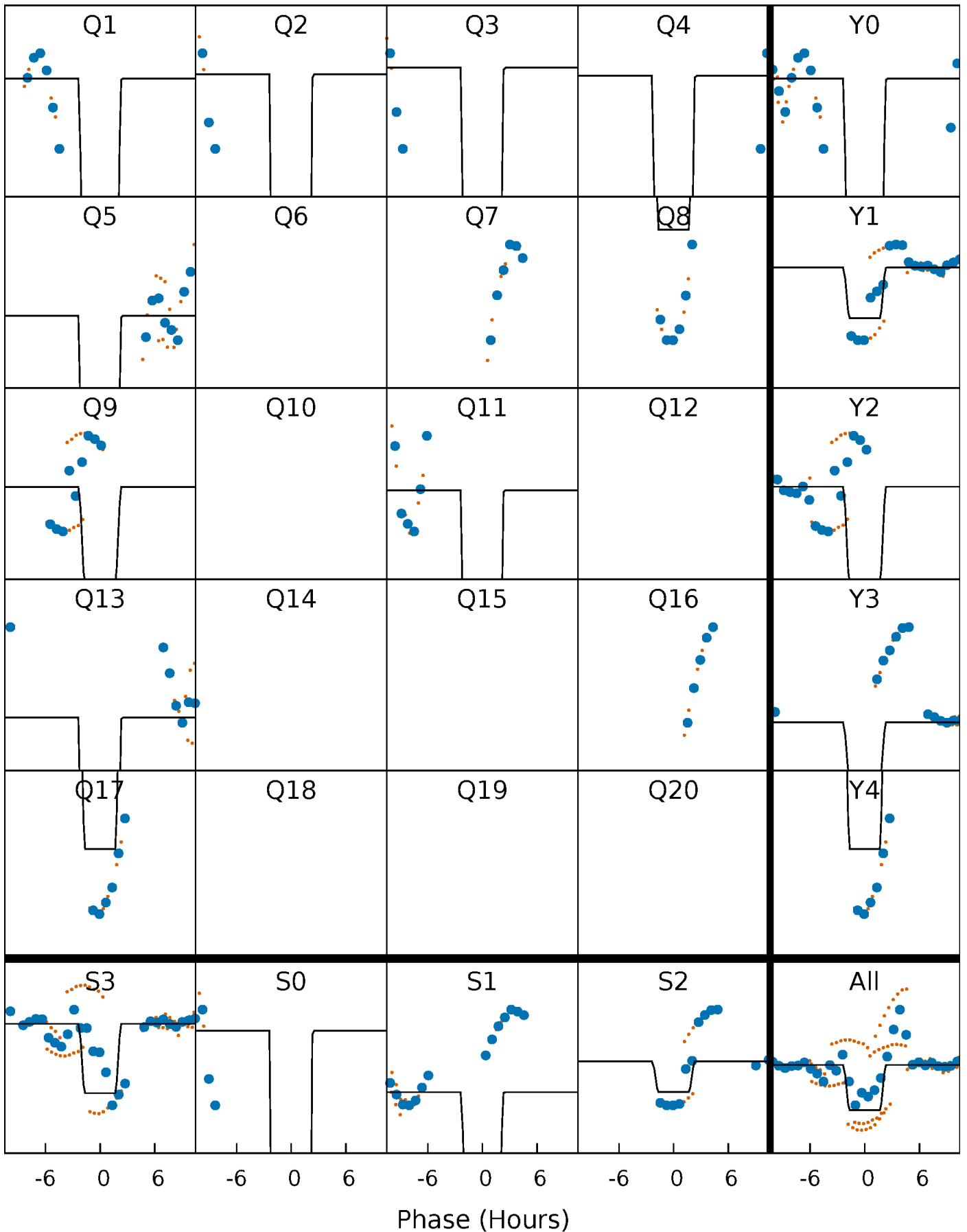
DV Quarter-Phased Transit Curves

TCE 004285040-02 $P = 74.534187$ Days $T_0 = 149.294479$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

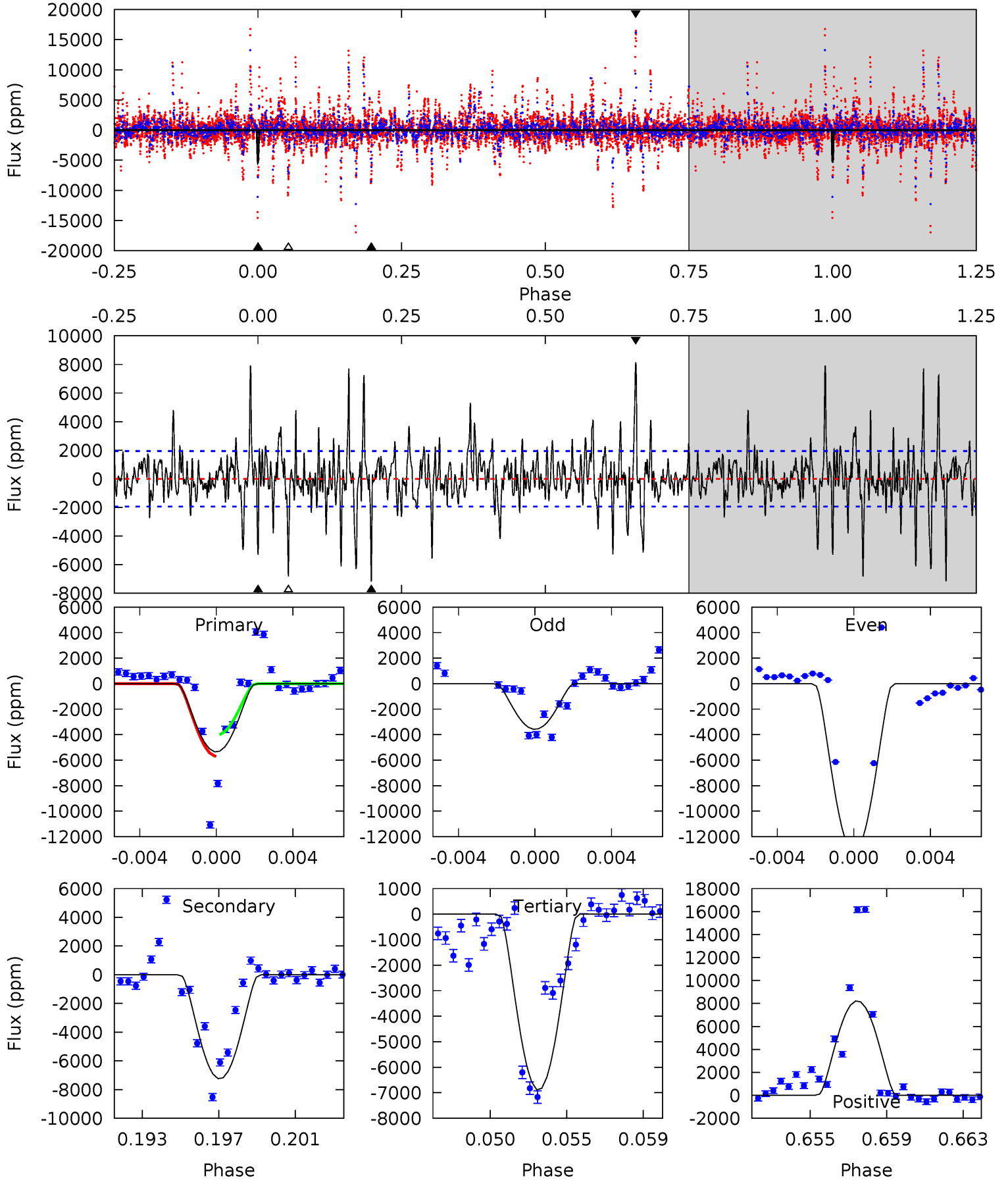
TCE 004285040-02 P= 74.535451 Days $T_0=149.289702$ (BKJD)



DV Model-Shift Uniqueness Test

004285040-02, P = 74.534187 Days, E = 74.760292 Days

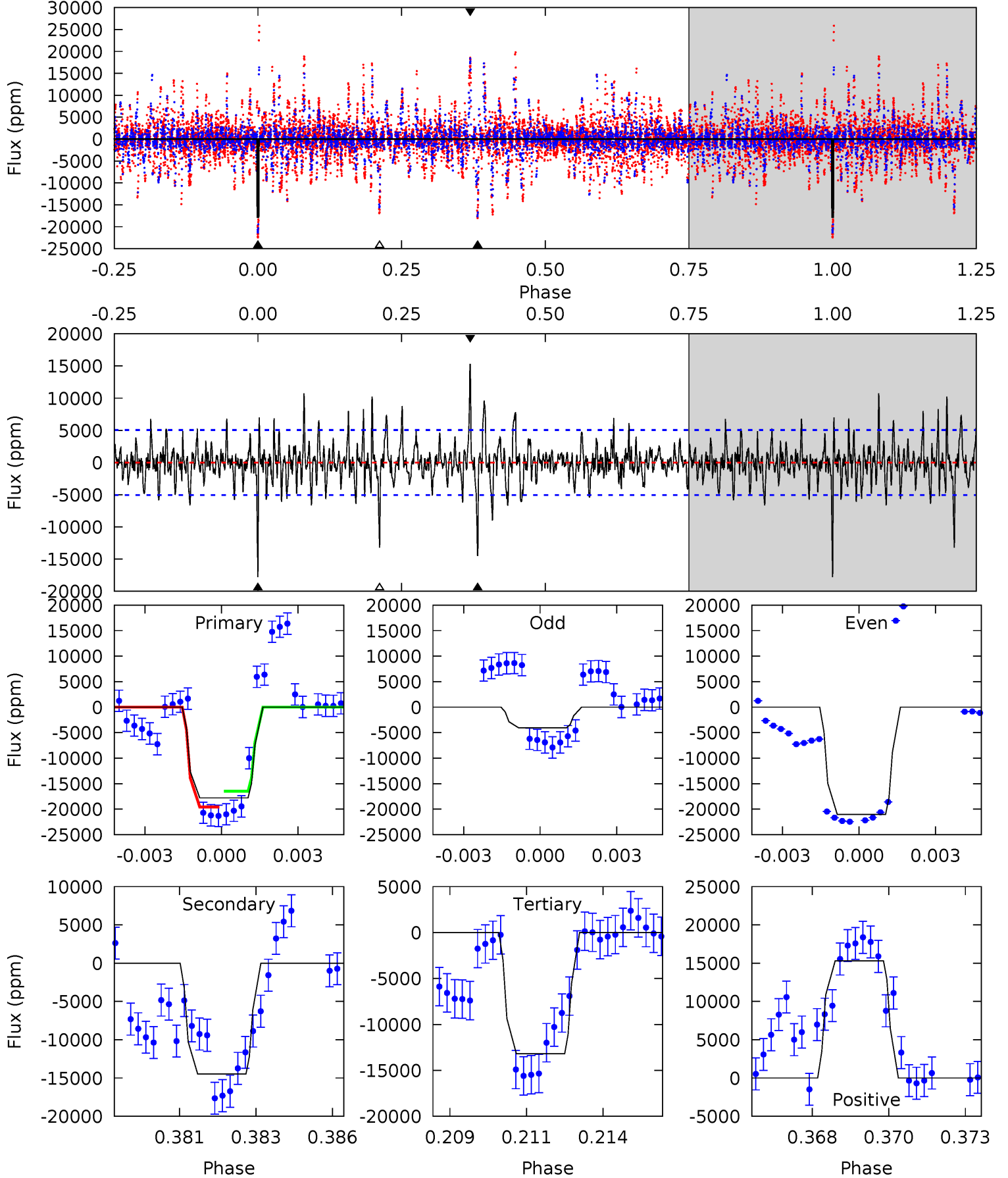
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	19.2	18.2	21.7	5.19	2.86	3.93	-4.06	-7.58	0.95	-2.57	12.8	21.1	0.53	2.31



Alt Model-Shift Uniqueness Test

004285040-02, P = 74.535451 Days, E = 74.754251 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	15.2	13.8	16.0	5.28	3.01	2.39	4.81	2.59	1.35	-0.86	10.2	-0.64	0.46	1.62



Stellar Parameters For KIC 004285040

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7701^{+214}_{-322}	$3.862^{+0.308}_{-0.103}$	$-0.020^{+0.200}_{-0.350}$	$2.703^{+0.436}_{-1.017}$	$1.939^{+0.110}_{-0.467}$	$0.138^{+0.289}_{-0.046}$
	+3%/-4%	+8%/-3%	+1000%/-1750%	+16%/-38%	+6%/-24%	+209%/-34%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004285040-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-7175 ± 374	$53.27^{+52.65}_{-34.89}$	1161^{+81}_{-104}	5076^{+3865}_{-1160}	256^{+1919}_{-189}
Alt.	-14486 ± 956	$50.87^{+50.89}_{-32.98}$	1162^{+76}_{-108}	6072^{+5709}_{-1594}	550^{+3928}_{-411}

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 $A_{obs} \gg 1.0$

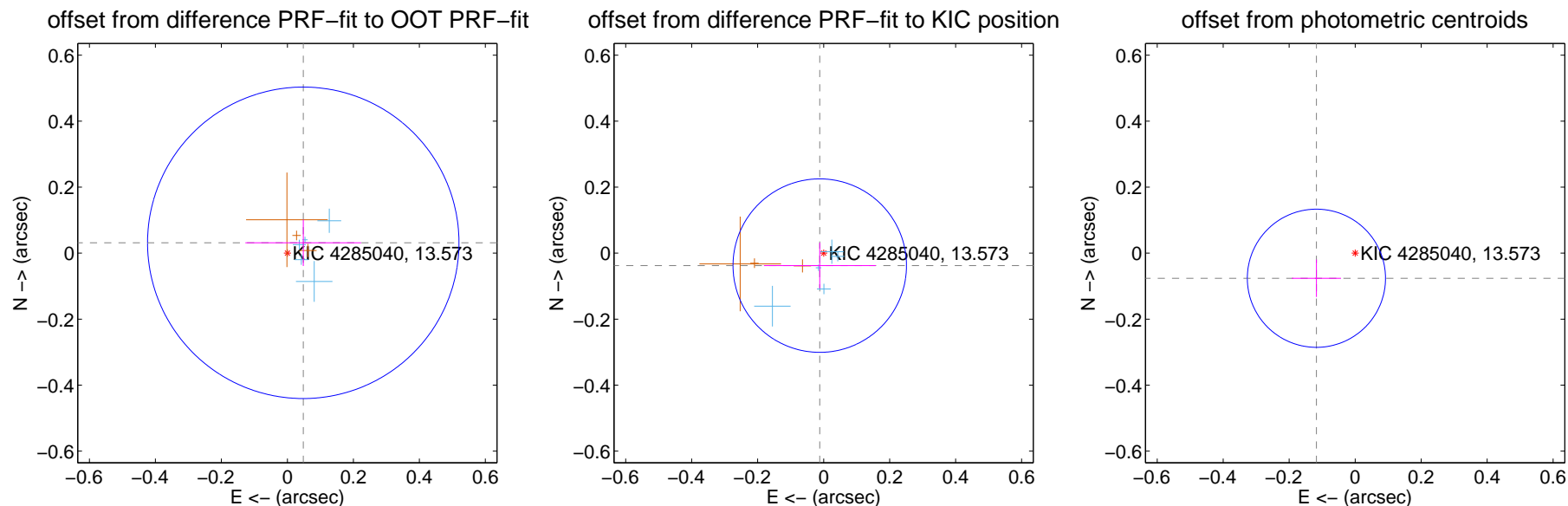
DV Centroid Data

Supplemental centroid analysis for 004285040-02. Kepler magnitude: 13.57. Transit SNR 9.34

There are 5 quarters with good PRF difference image offsets

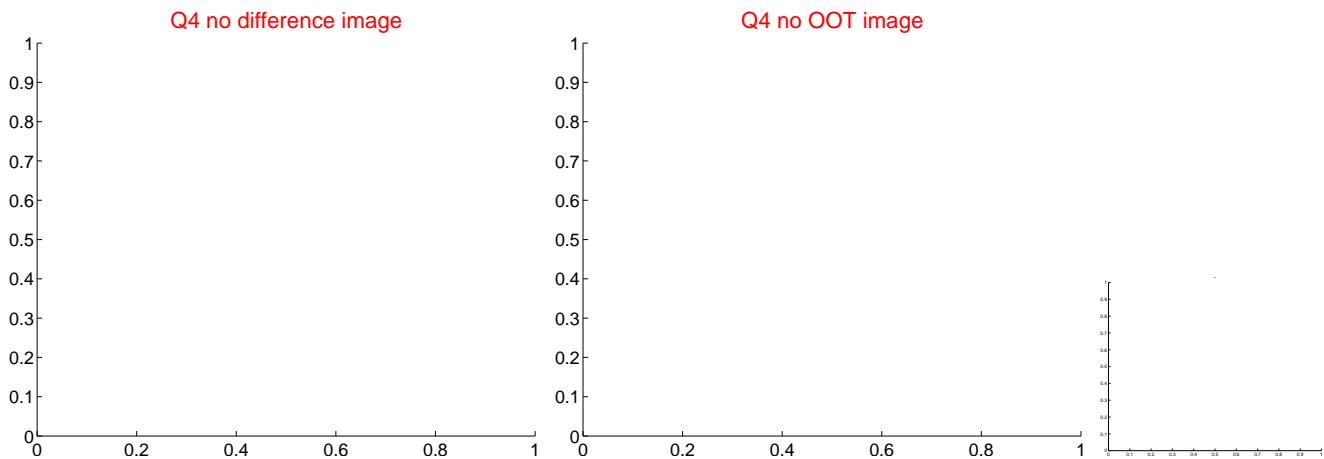
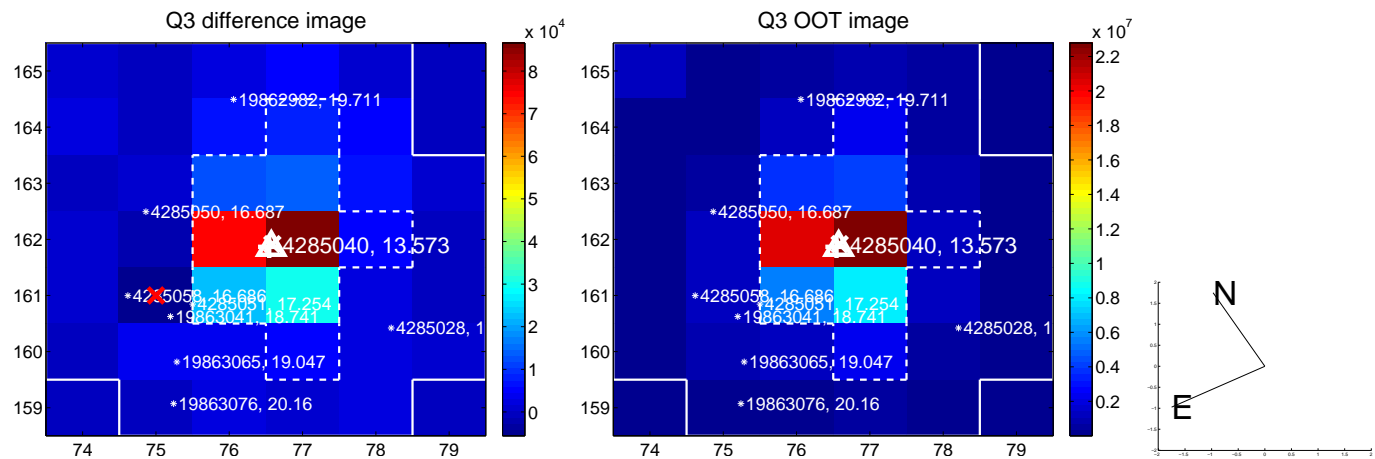
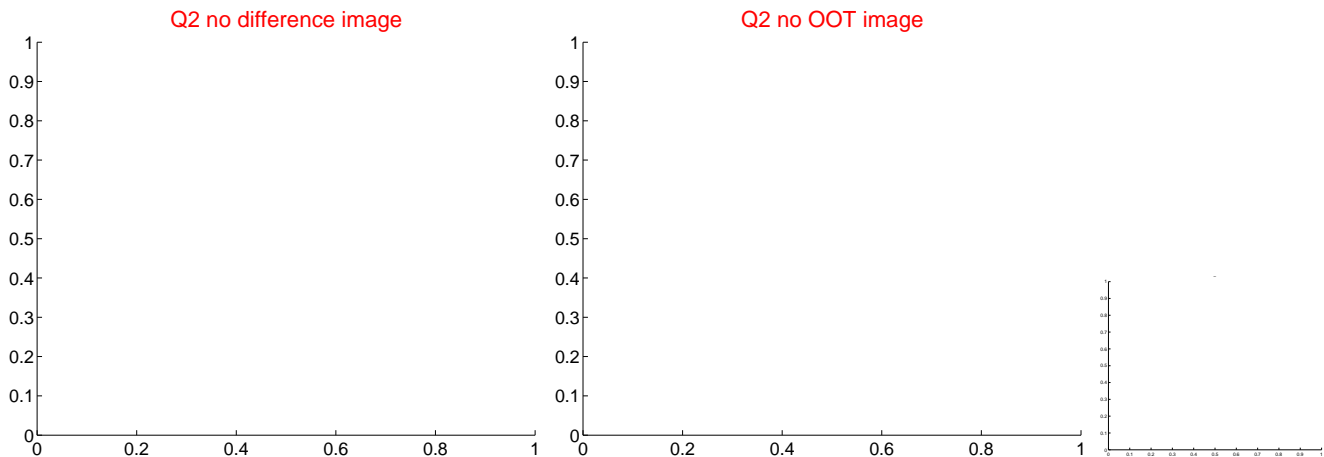
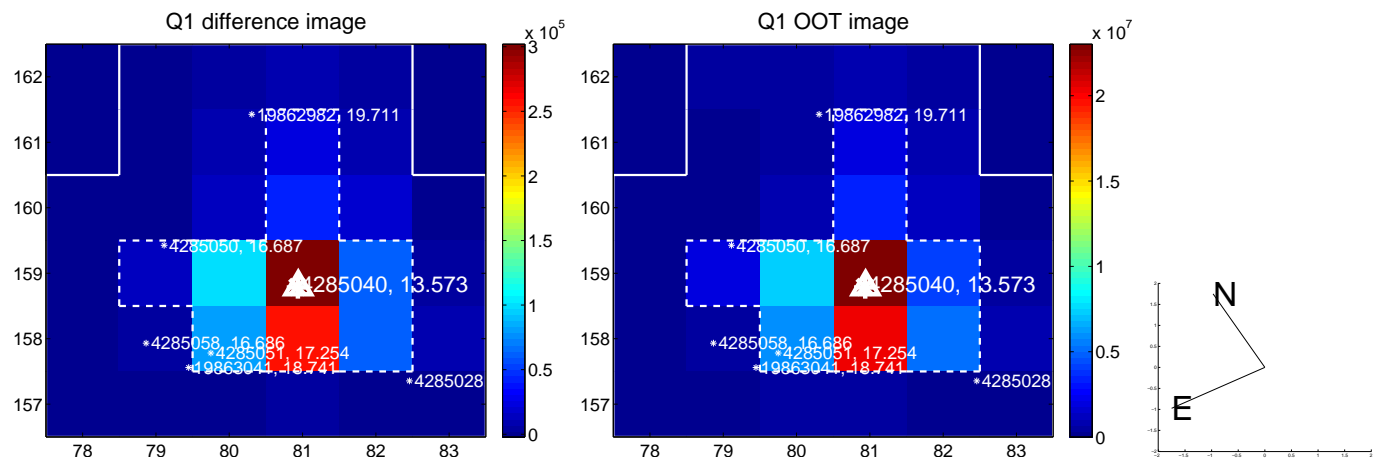
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.057 ± 0.157	0.37	-0.048 ± 0.175	0.031 ± 0.070
PRF-fit source offset from KIC position	0.040 ± 0.088	0.45	0.012 ± 0.169	-0.038 ± 0.069
photometric centroid source offset	0.14 ± 0.07	2.01	0.12 ± 0.07	-0.08 ± 0.06

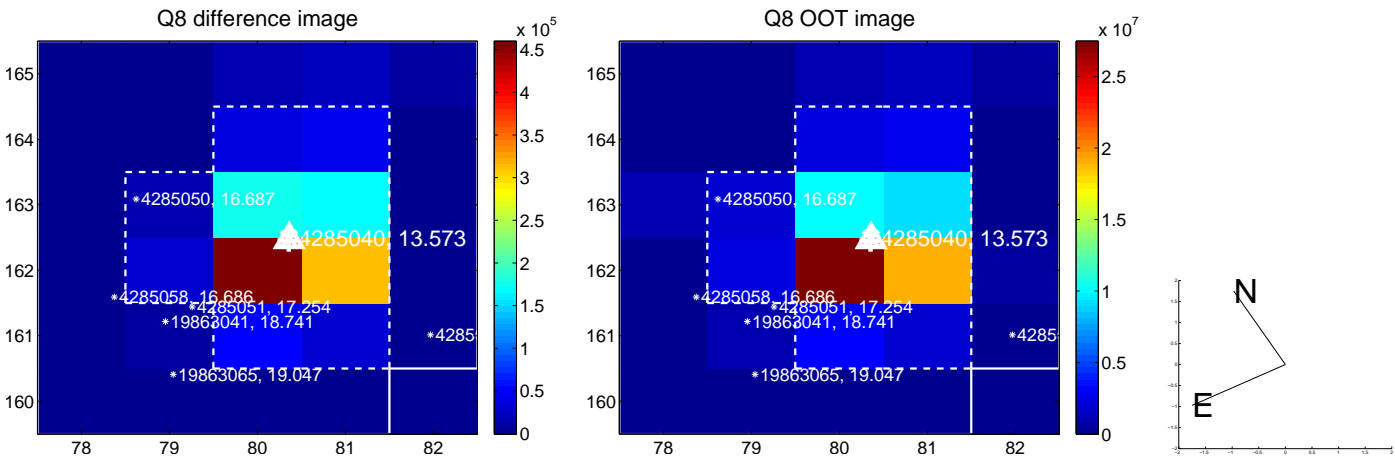
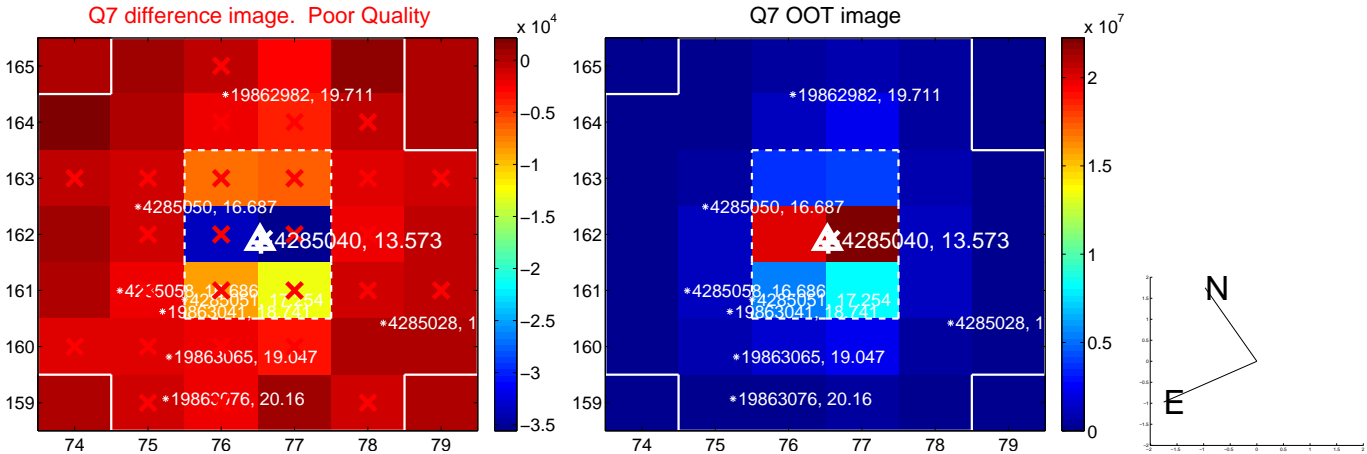
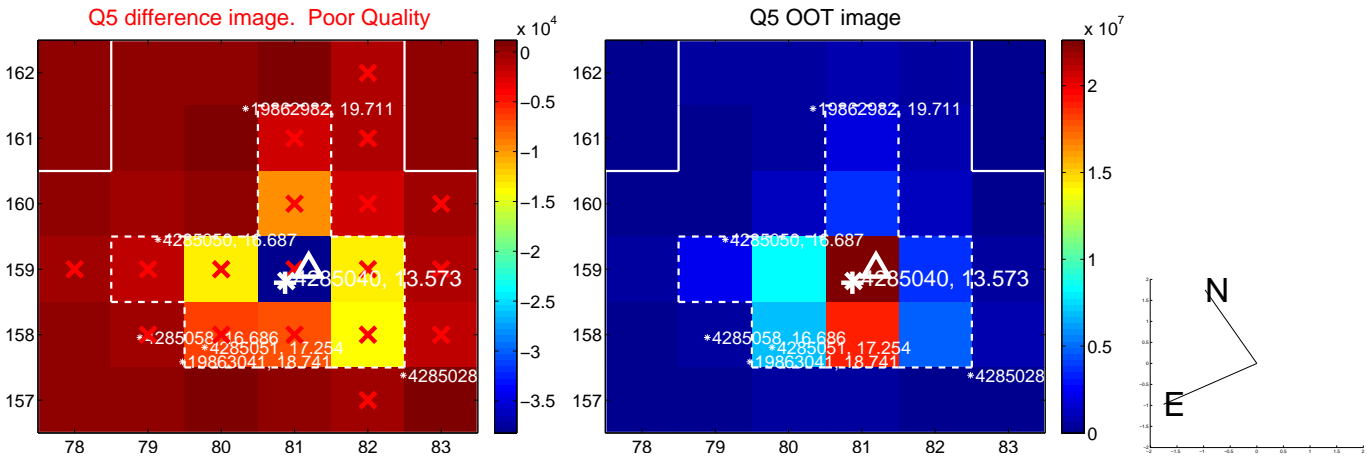


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

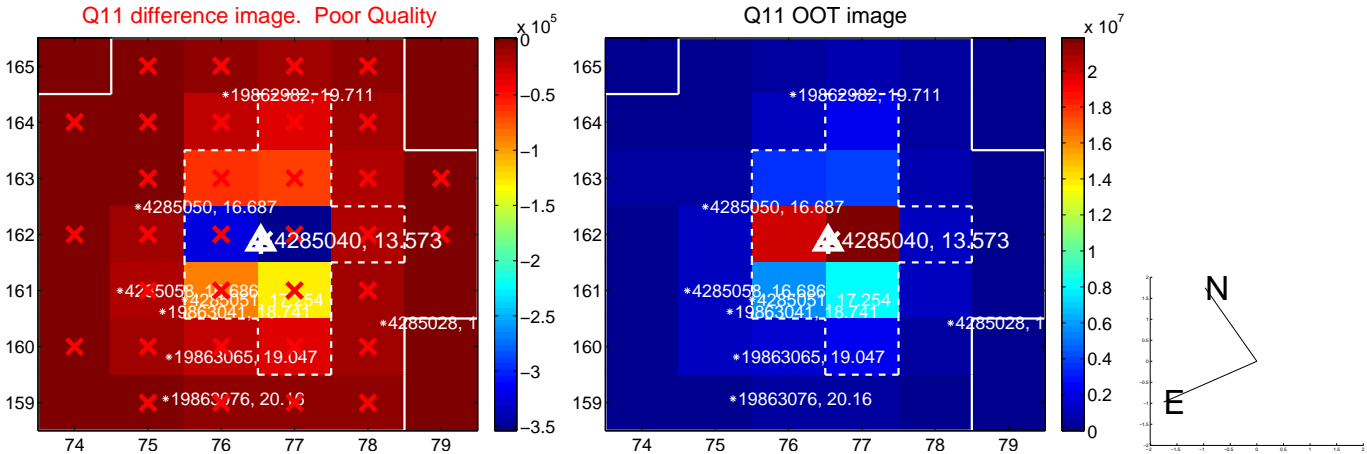
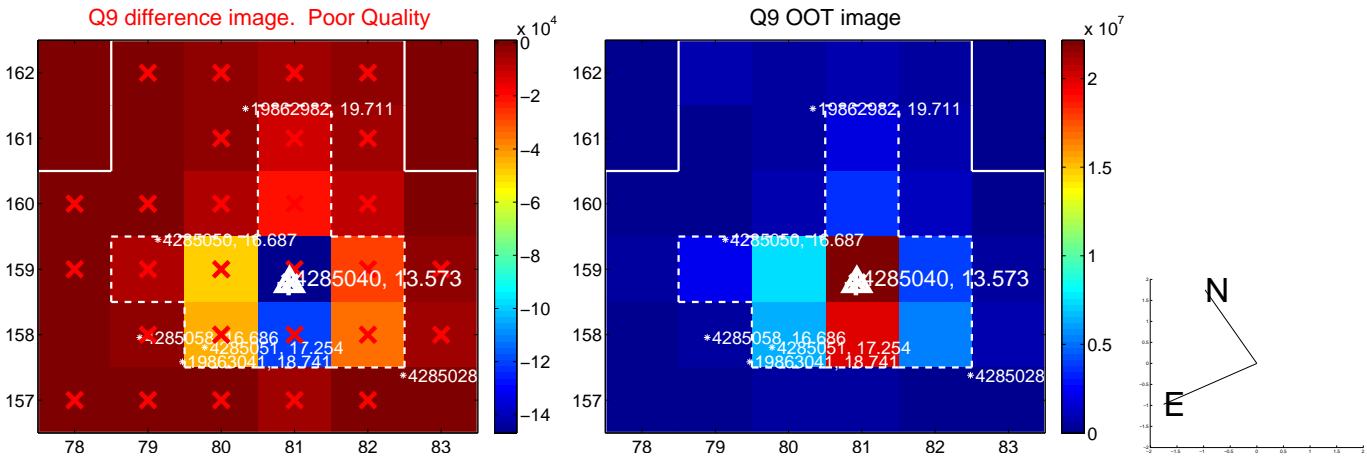
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



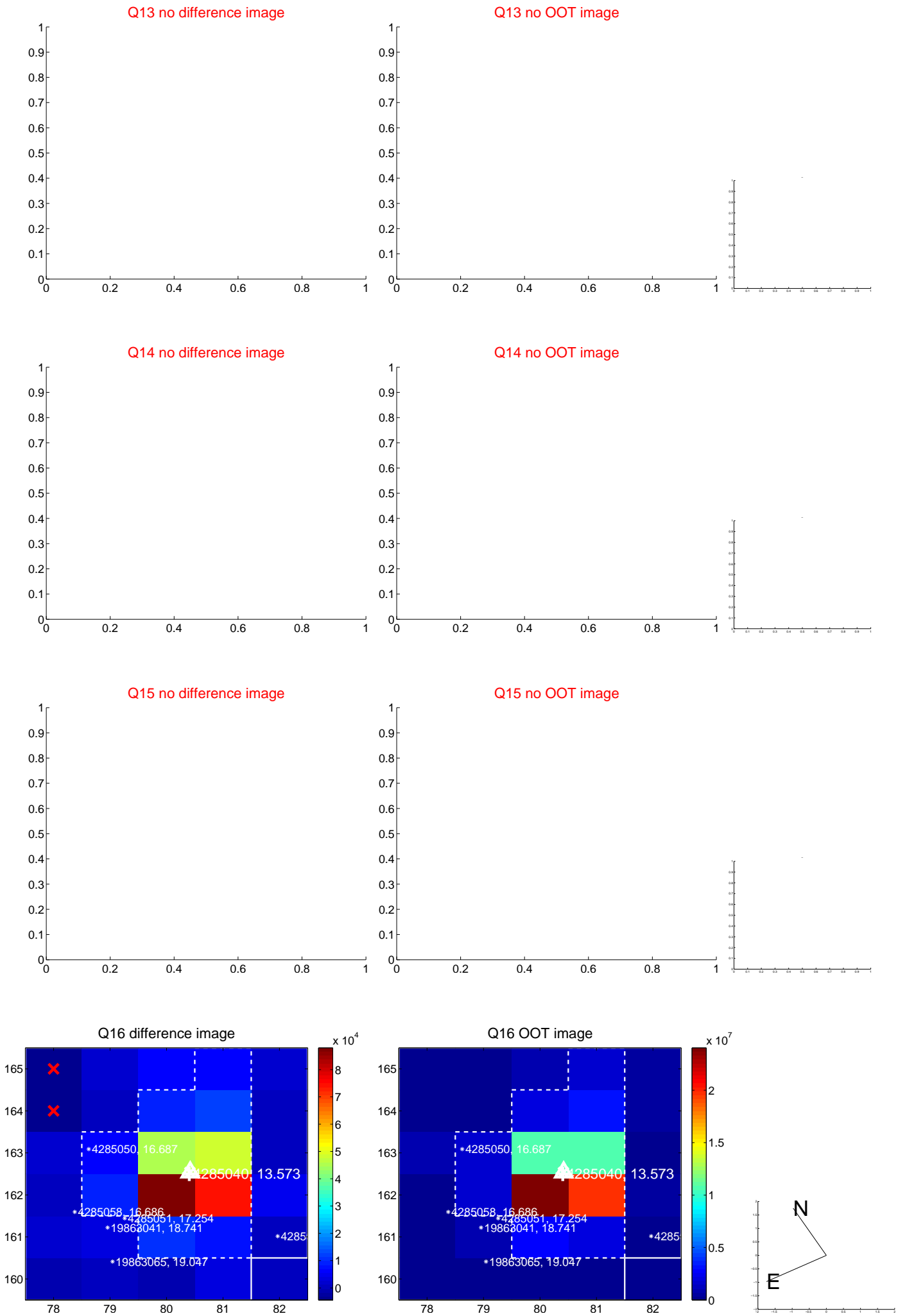
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



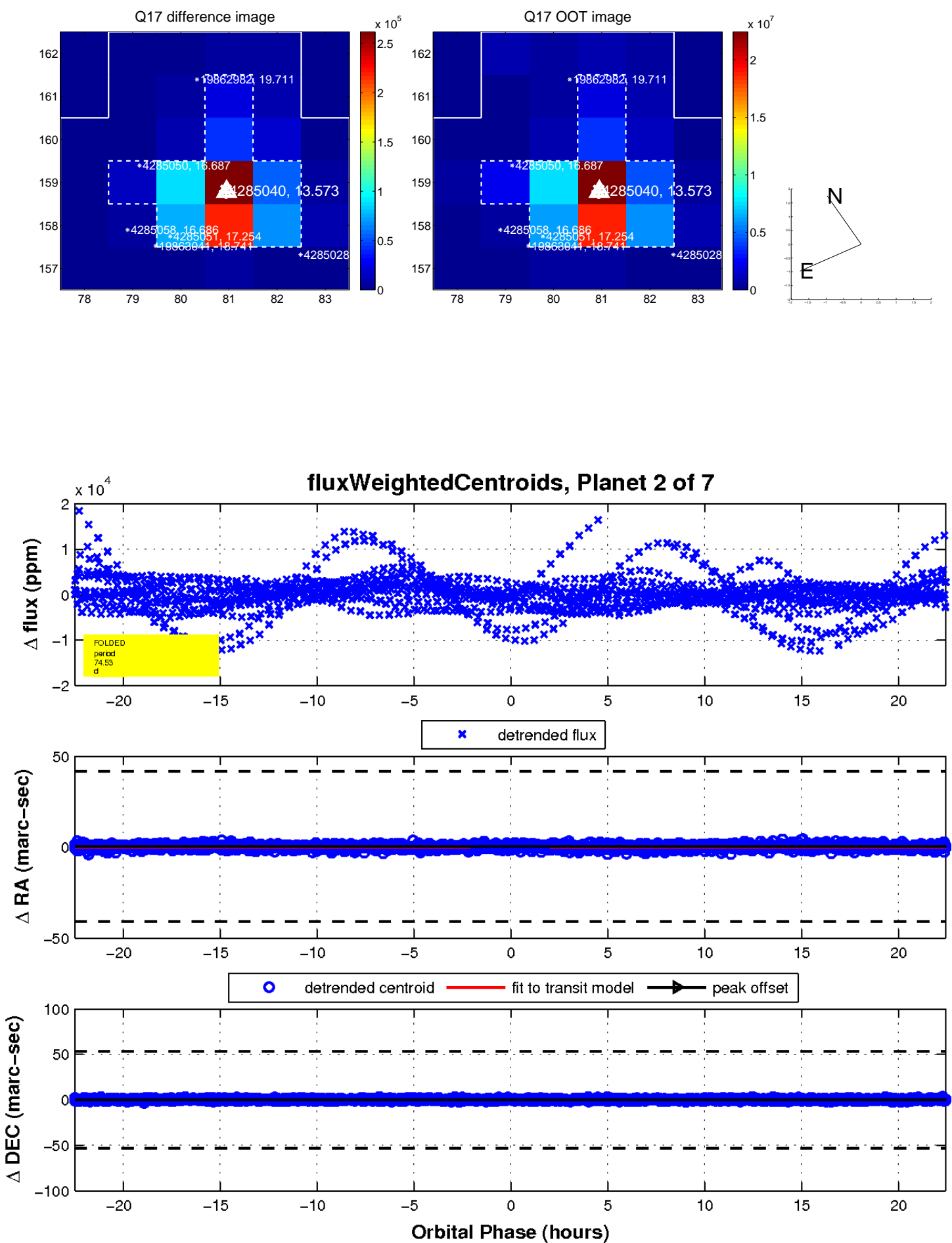
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

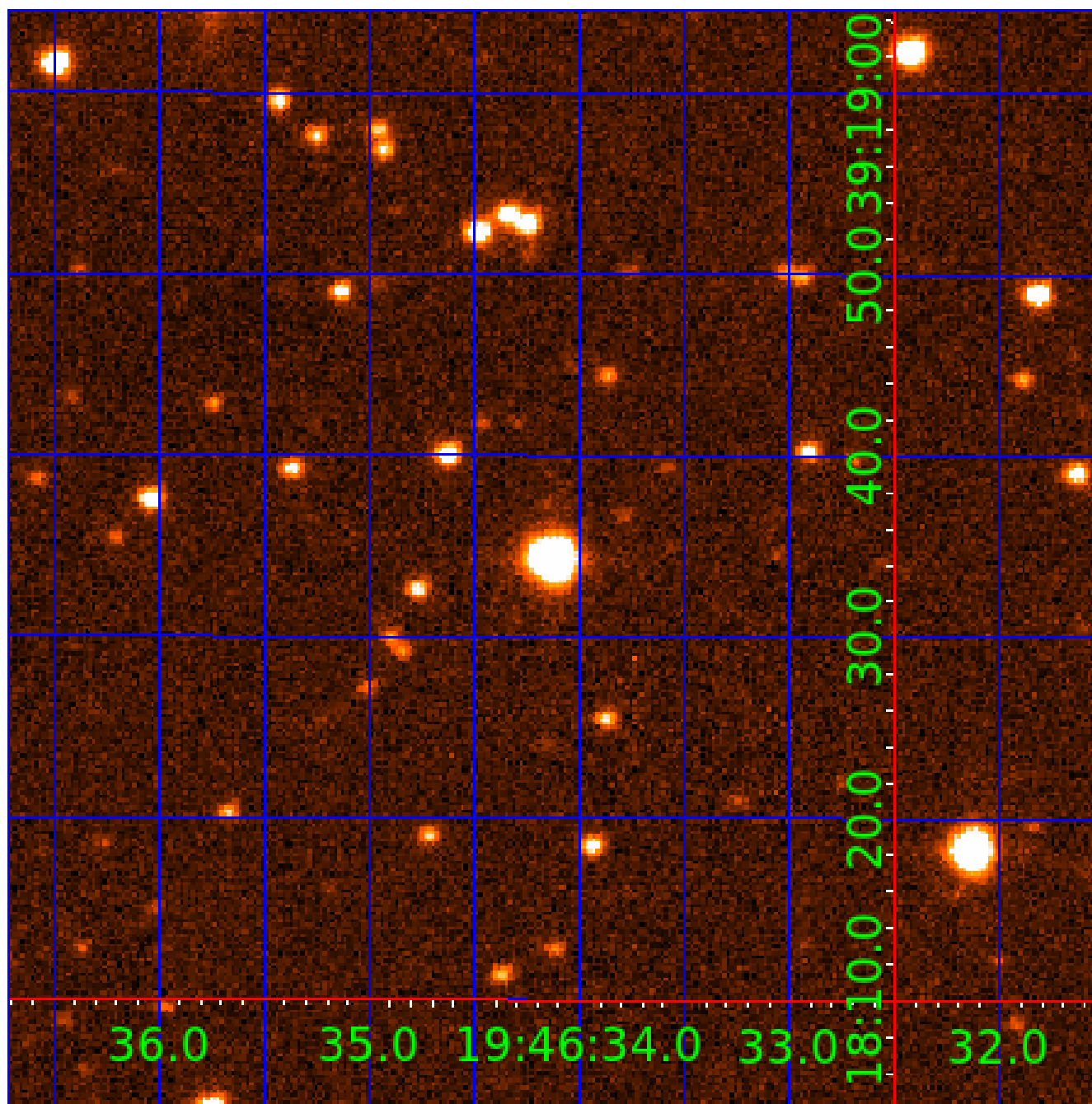


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004285040

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})
004285040-01	OBS	No	0.979586	131.872964	66.5	6.211	8.2	5.8	2.70	7701	2.31	39712.14
004285040-02	OBS	No	74.534187	149.294479	5905.1	7.496	21.0	9.3	2.70	7701	36.77	123.17
004285040-03	OBS	No	81.993201	175.525601	4354.3	6.164	15.0	8.8	2.70	7701	31.84	108.46
004285040-04	OBS	No	79.575131	186.600422	3431.1	4.999	14.4	8.1	2.70	7701	28.43	112.88
004285040-05	OBS	No	119.291949	197.174239	428.1	6.000	10.8	-1.0	2.70	7701	5.67	65.79
004285040-06	OBS	No	101.733249	181.215102	4671.8	7.879	13.1	9.1	2.70	7701	32.90	81.35
004285040-07	OBS	No	1.960053	131.626784	439.7	4.500	11.9	-1.0	2.70	7701	5.74	15750.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004285040-01	OBS	FP	0.00	1	0	0	0	LPP_DV
004285040-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV
004285040-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES
004285040-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT
004285040-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST
004285040-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
004285040-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—CENT_NOFITS

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

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

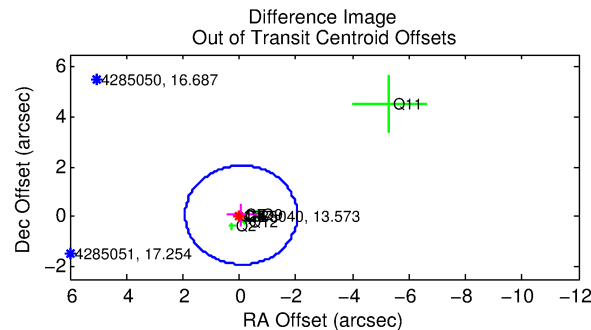
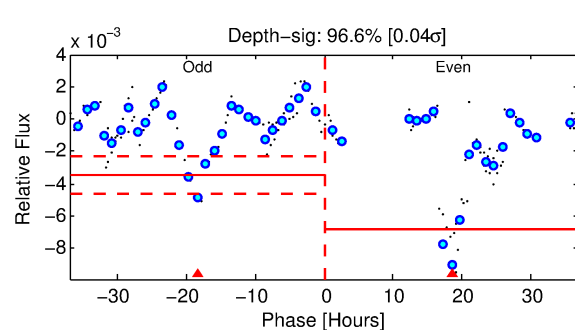
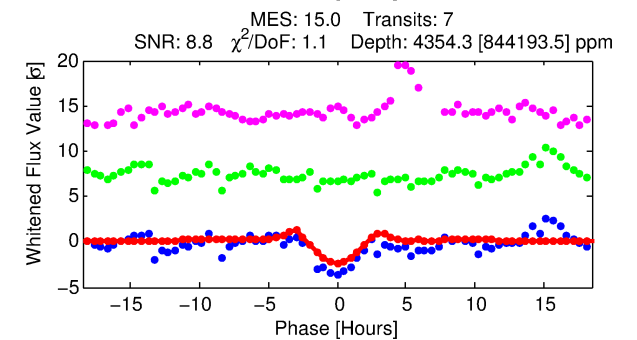
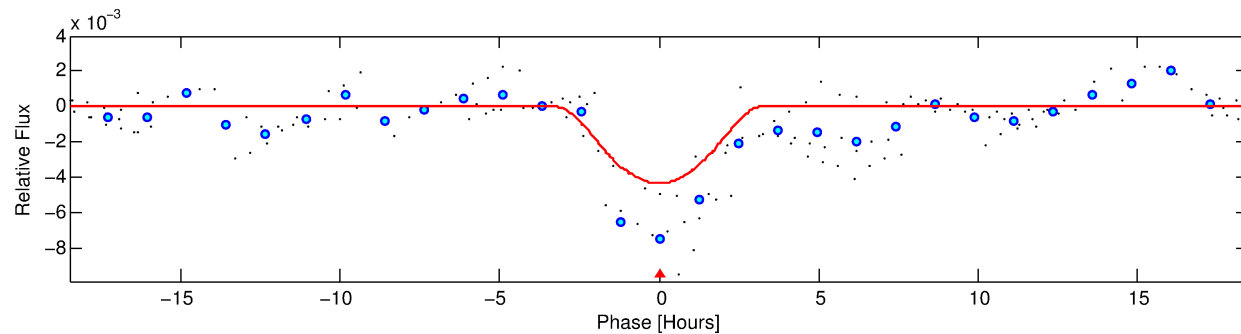
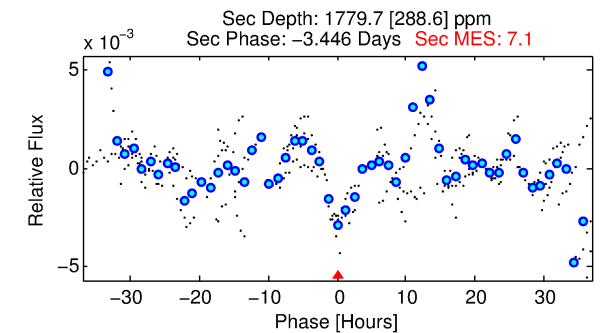
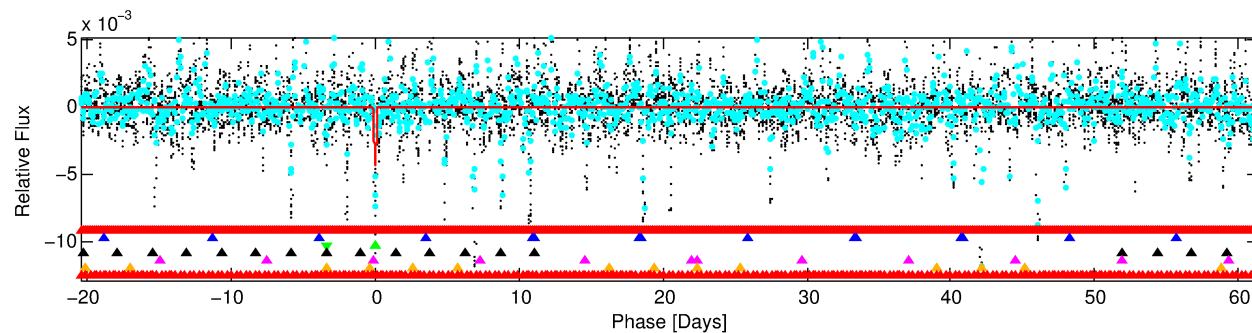
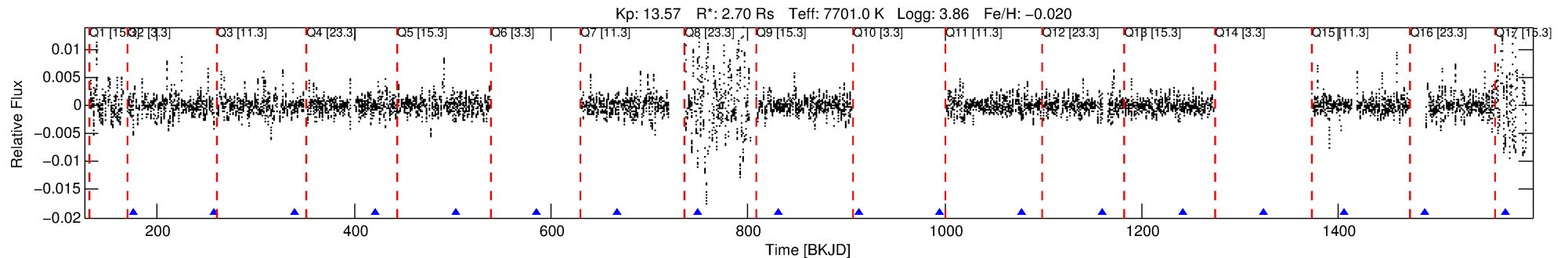
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004285040-03

No Significant Match Found

DV One-Page Summary

KIC: 4285040 Candidate: 3 of 7 Period: 81.993 d



DV Fit Results:

Period = 81.99320 [0.00103] d
Epoch = 175.5256 [0.0096] BKJD
Rp/R* = 0.1080 [0.2652]
a/R* = 48.49 [23.38]
b = 1.00 [13.87]
Seff = 108.46 [60.82]
Teq = 823 [115] K
Rp = 31.84 [79.15] Re
a = 0.4607 [0.1588] AU
Ag = 204.97 [1013.66] [0.20σ]
Teff = 4814 [5920] K [0.67σ]

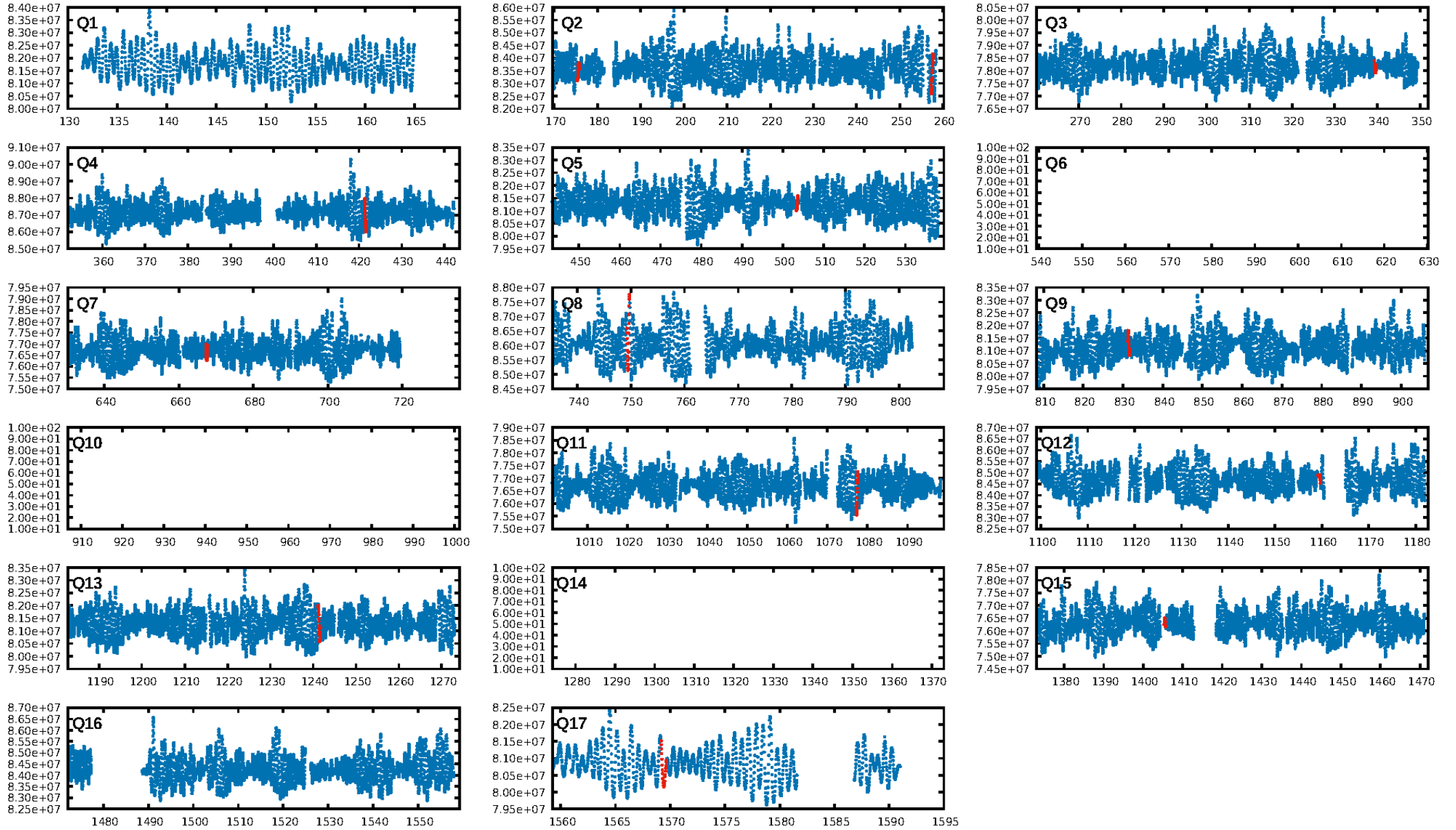
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.31σ]
LongPeriod-sig: 100.0% [47.36σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -1.697
Centroid-sig: 55.2%
Centroid-so: 0.246 arcsec [2.29σ]
OotOffset-rm: 0.087 arcsec [0.13σ]
OotOffset-st: 1/3/3/2 [9]
KicOffset-rm: 0.025 arcsec [0.17σ]
KicOffset-st: 1/3/3/2 [9]
DiffImageQuality-fgm: 0.67 [6/9]
DiffImageOverlap-fno: 0.00 [0/9]

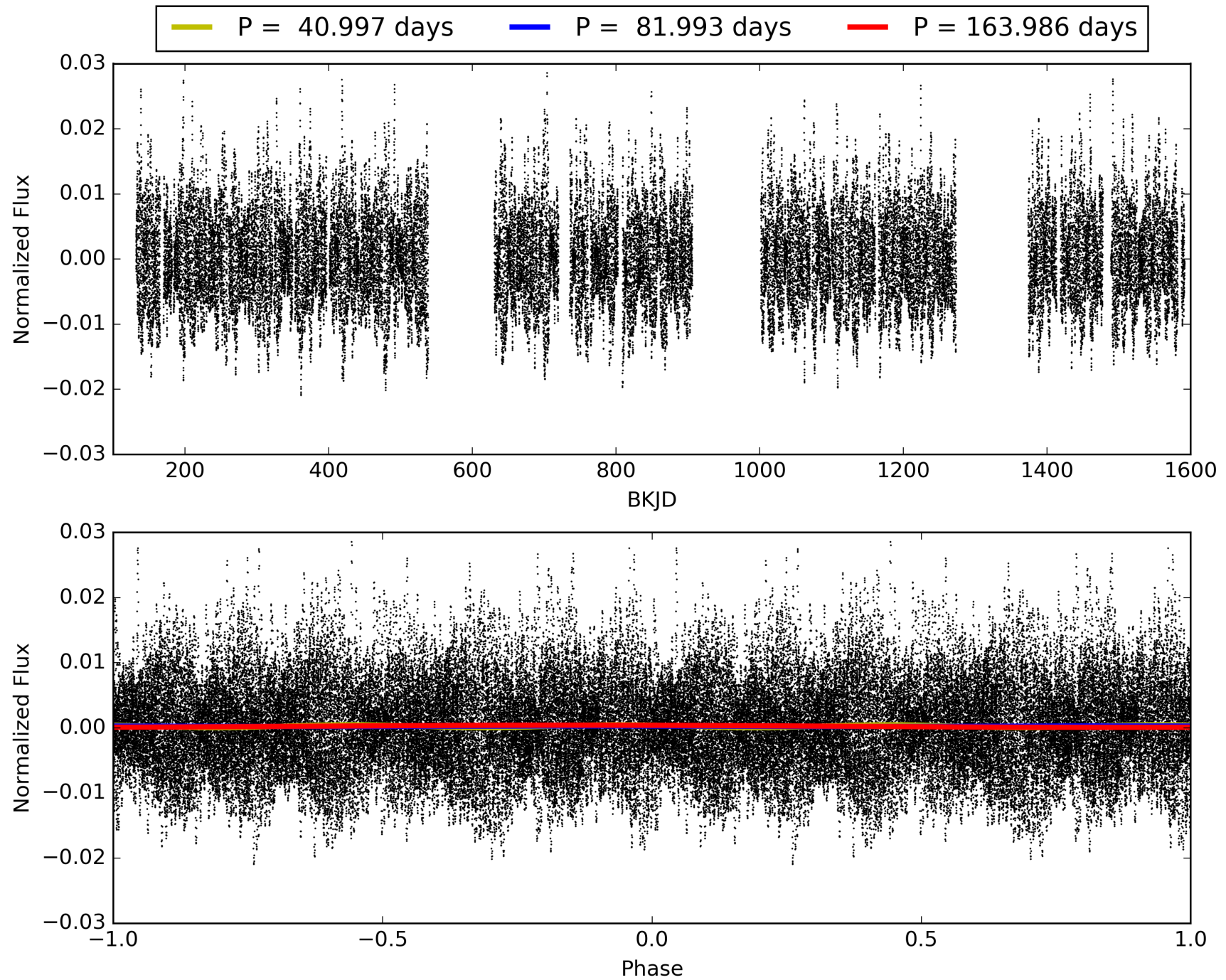
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:45:18 Z

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

TCE 004285040-03, PDC Light Curves

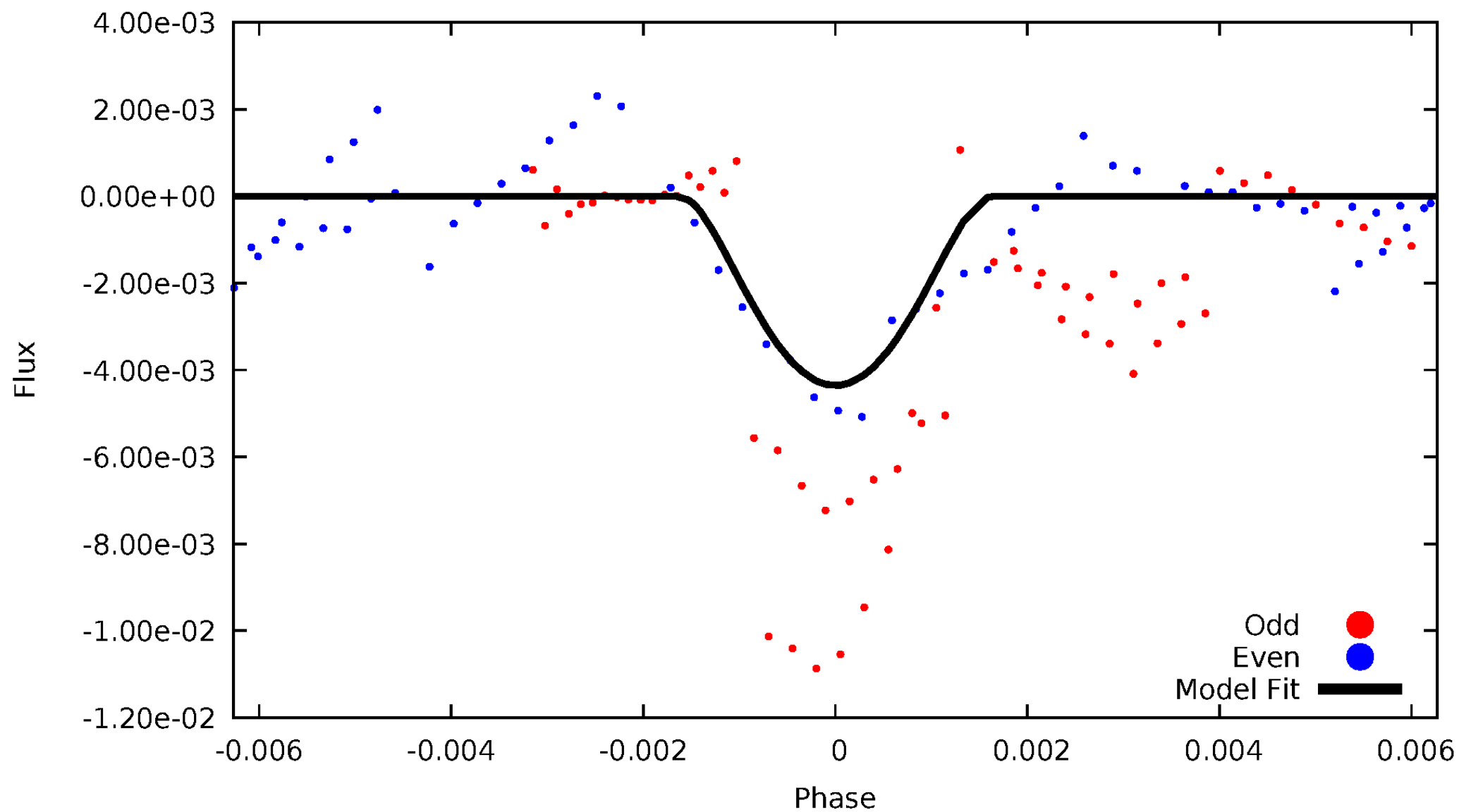


TCE 004285040-03



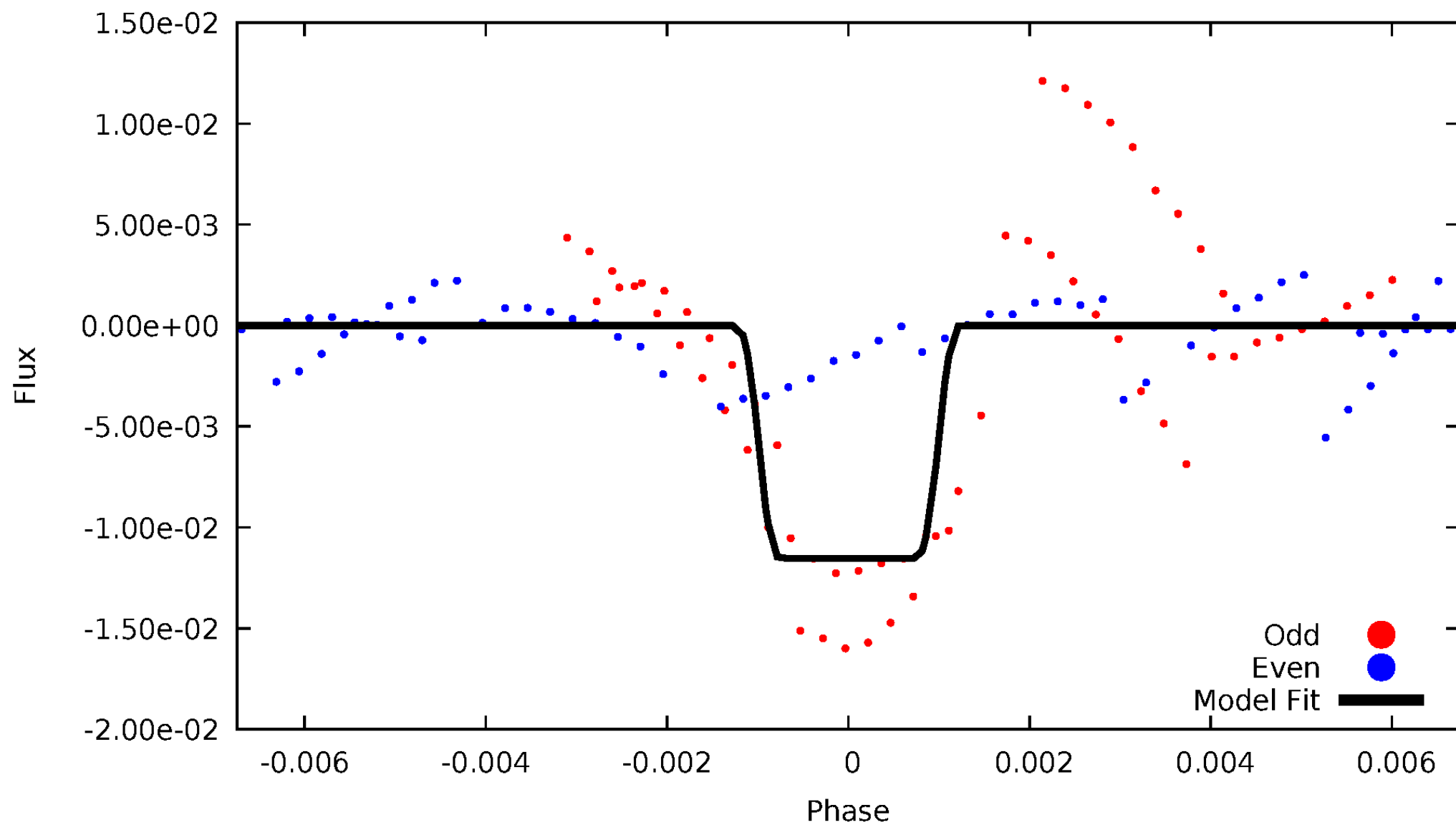
DV Odd/Even

TCE 004285040-03



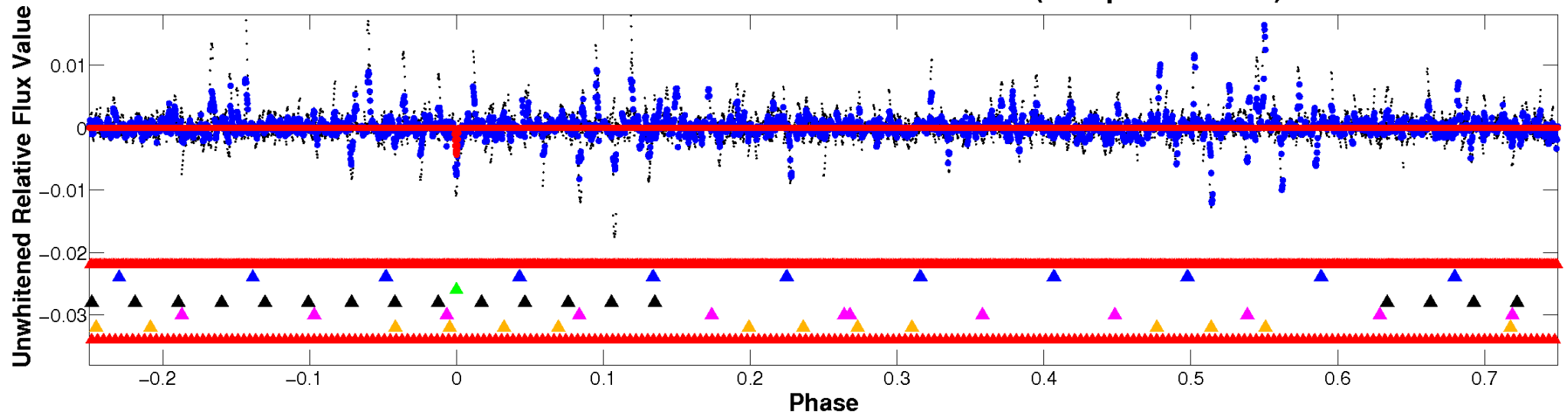
ALT Odd/Even

TCE 004285040-03

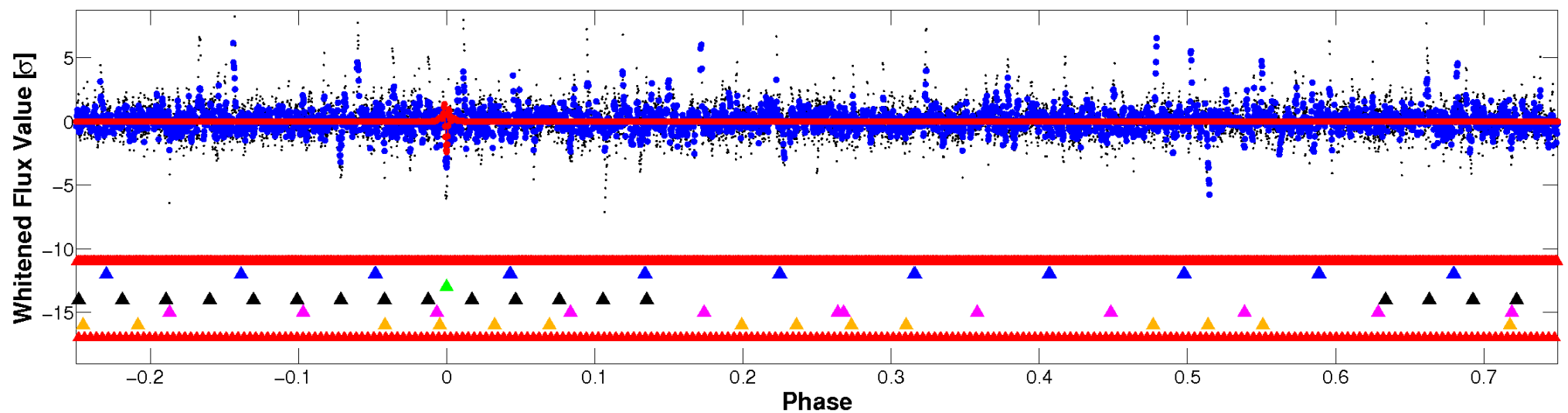


Non-Whitened Vs. Whitened Light Curve

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

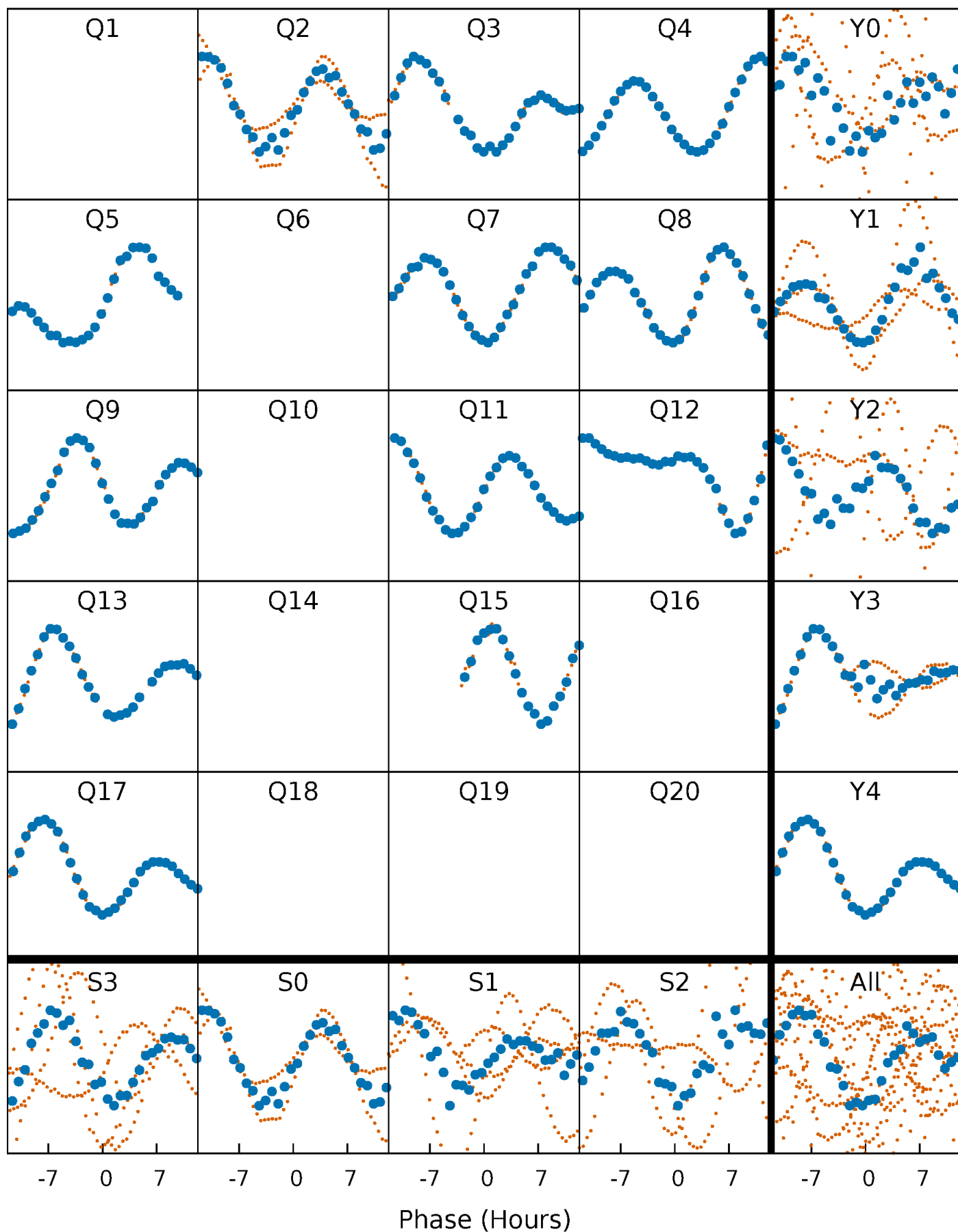


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



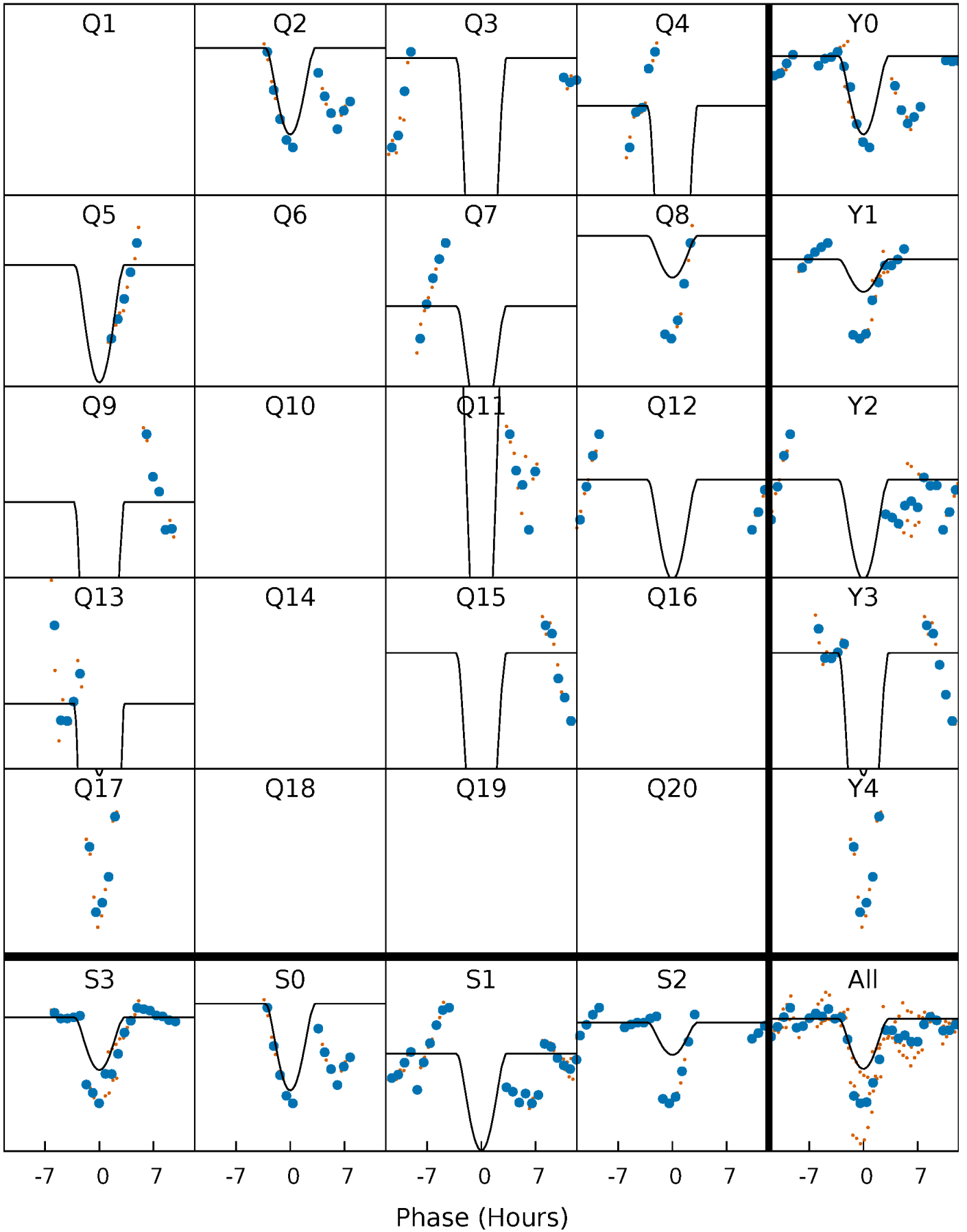
PDC Quarter-Phased Transit Curves

TCE 004285040-03 P= 81.993201 Days $T_0=175.525601$ (BKJD)



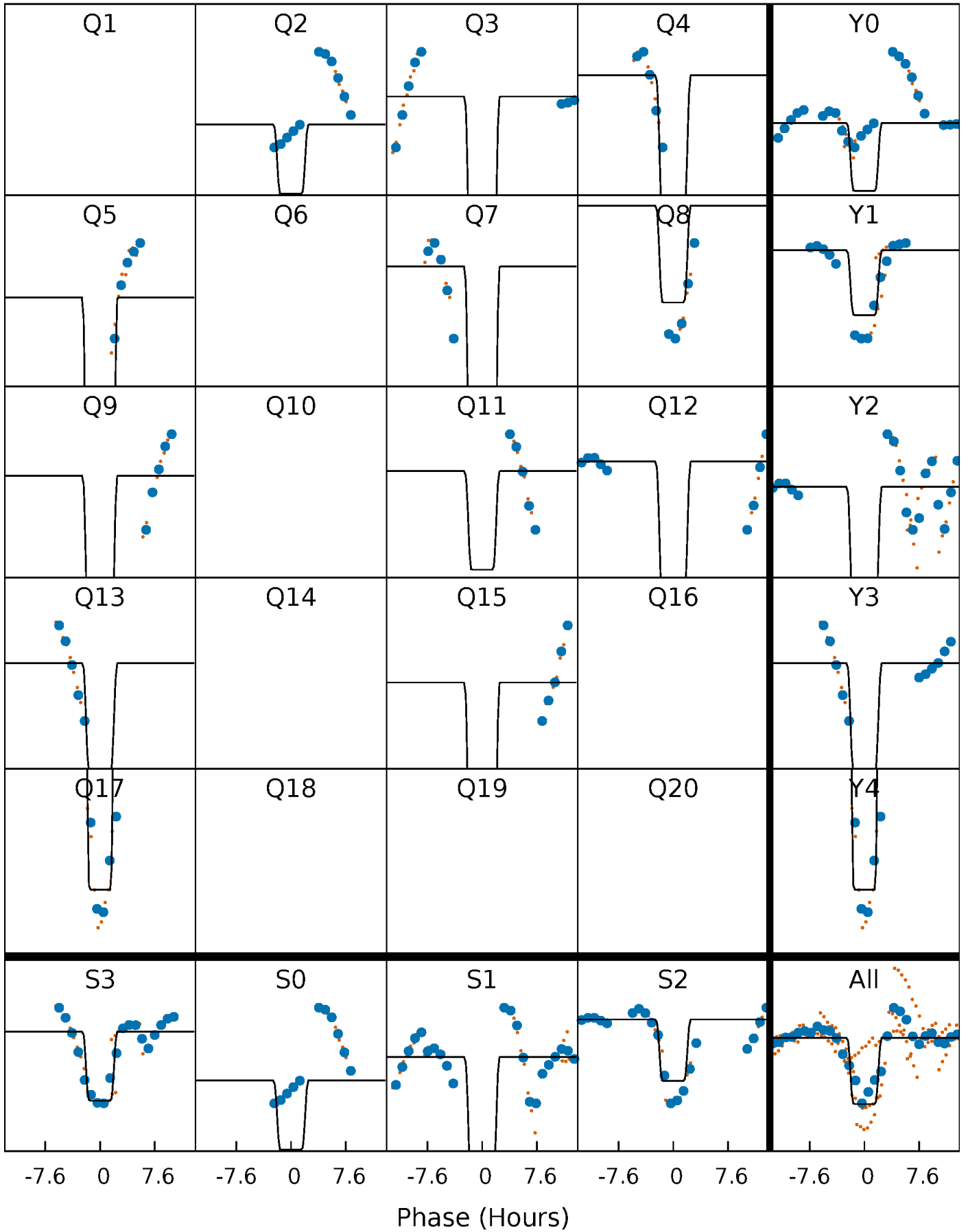
DV Quarter-Phased Transit Curves

TCE 004285040-03 P= 81.993201 Days $T_0=175.525601$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

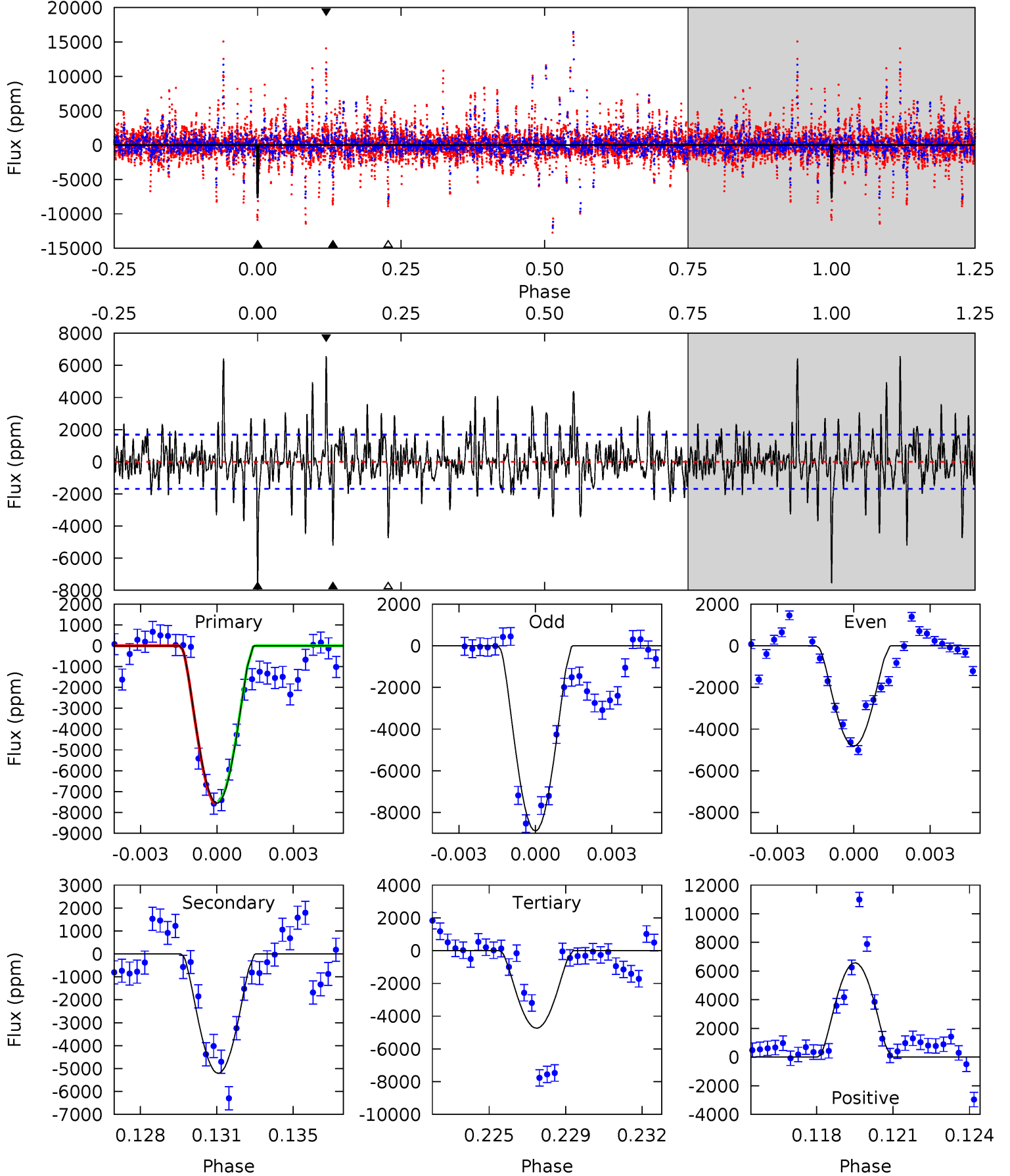
TCE 004285040-03 P= 81.994850 Days $T_0=175.500560$ (BKJD)



DV Model-Shift Uniqueness Test

004285040-03, P = 81.993201 Days, E = 93.532400 Days

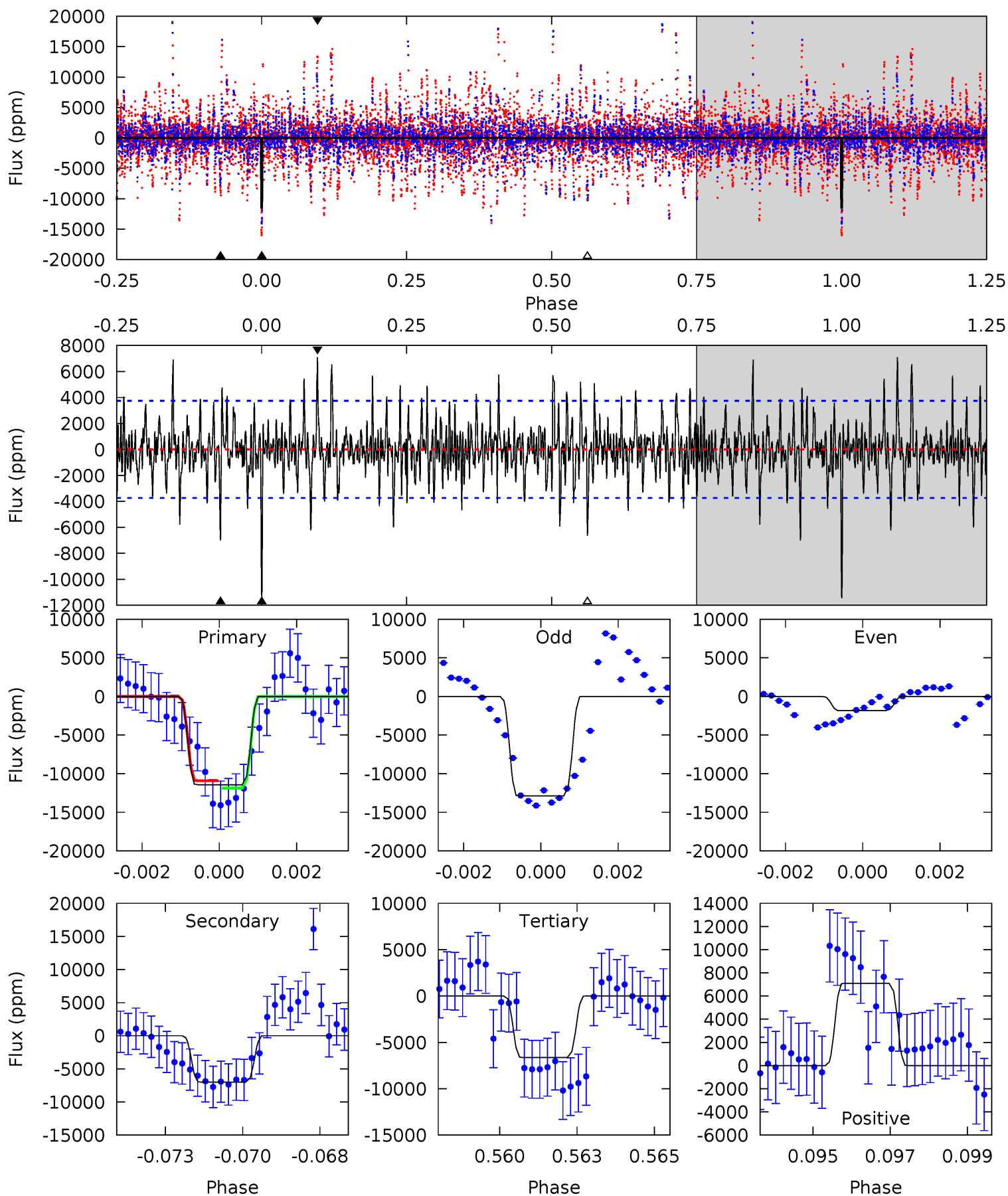
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.5	16.2	14.7	20.4	5.23	2.93	3.58	8.75	3.03	1.45	-4.26	5.52	0.90	0.47	0.17



Alt Model-Shift Uniqueness Test

004285040-03, P = 81.994850 Days, E = 93.505710 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	9.94	9.41	10.1	5.29	3.03	2.41	6.80	6.14	0.53	-0.13	7.22	1.13	0.38	0.67



Stellar Parameters For KIC 004285040

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7701^{+214}_{-322}	$3.862^{+0.308}_{-0.103}$	$-0.020^{+0.200}_{-0.350}$	$2.703^{+0.436}_{-1.017}$	$1.939^{+0.110}_{-0.467}$	$0.138^{+0.289}_{-0.046}$
	+3%/-4%	+8%/-3%	+1000%/-1750%	+16%/-38%	+6%/-24%	+209%/-34%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004285040-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-5206 ± 322	$61.44^{+70.63}_{-43.25}$	1128^{+76}_{-108}	4470^{+3235}_{-1015}	156^{+1628}_{-121}
Alt.	-7014 ± 705	$64.57^{+63.65}_{-45.01}$	1127^{+72}_{-111}	4664^{+3733}_{-1011}	190^{+1870}_{-141}

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

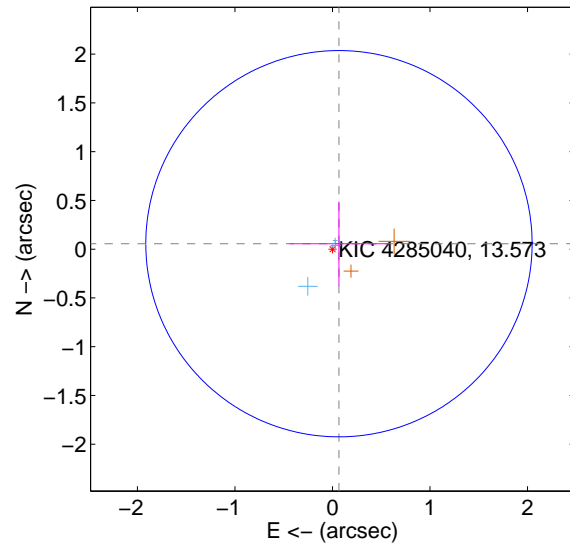
Supplemental centroid analysis for 004285040-03. Kepler magnitude: 13.57. Transit SNR 8.79

There are 6 quarters with good PRF difference image offsets

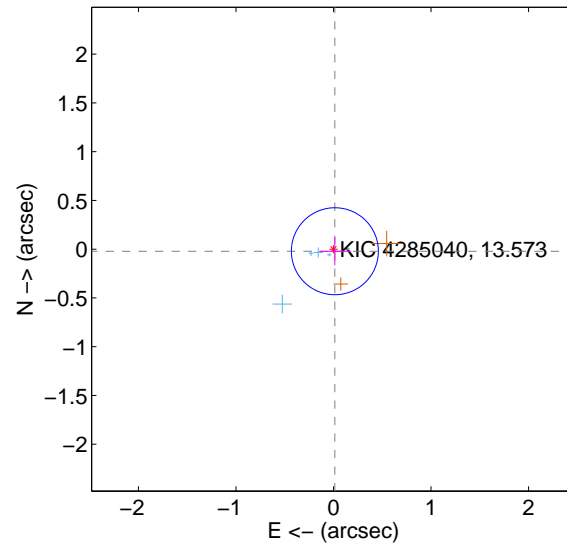
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.087 ± 0.660	0.13	-0.066 ± 0.506	0.056 ± 0.432
PRF-fit source offset from KIC position	0.025 ± 0.149	0.17	-0.014 ± 0.161	-0.021 ± 0.143
photometric centroid source offset	0.25 ± 0.11	2.29	0.23 ± 0.11	-0.07 ± 0.09

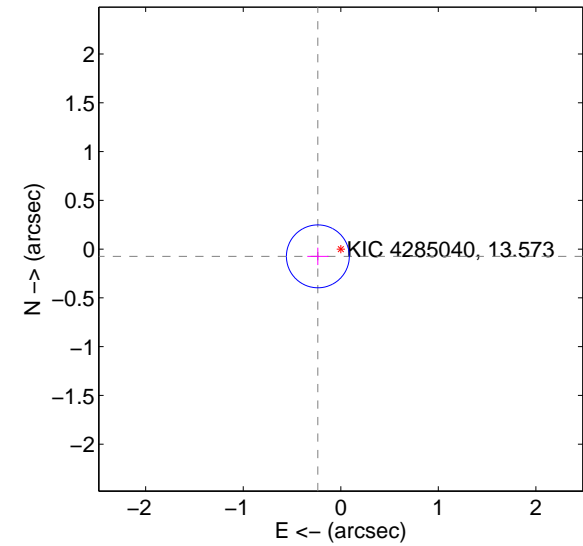
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

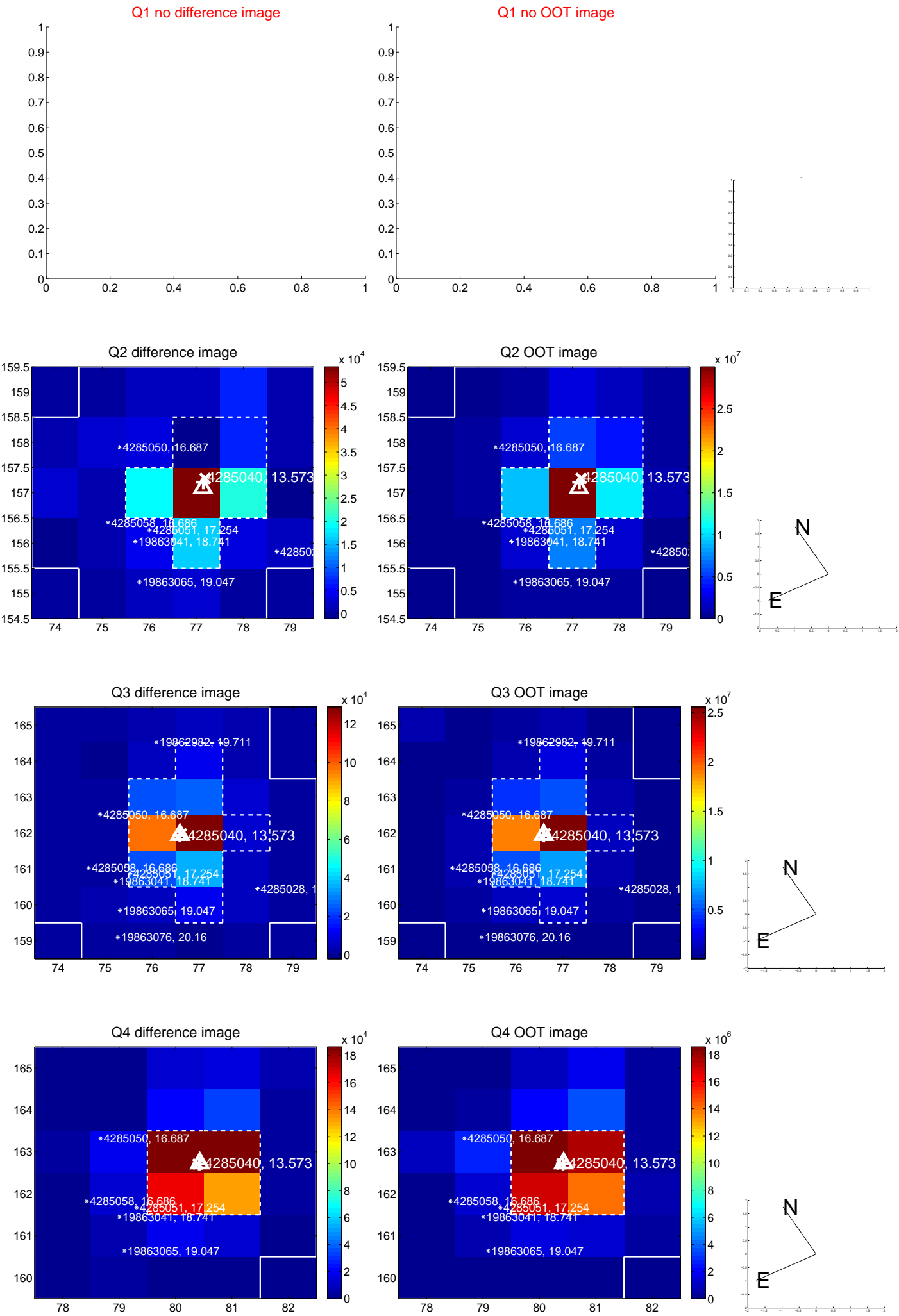


offset from photometric centroids

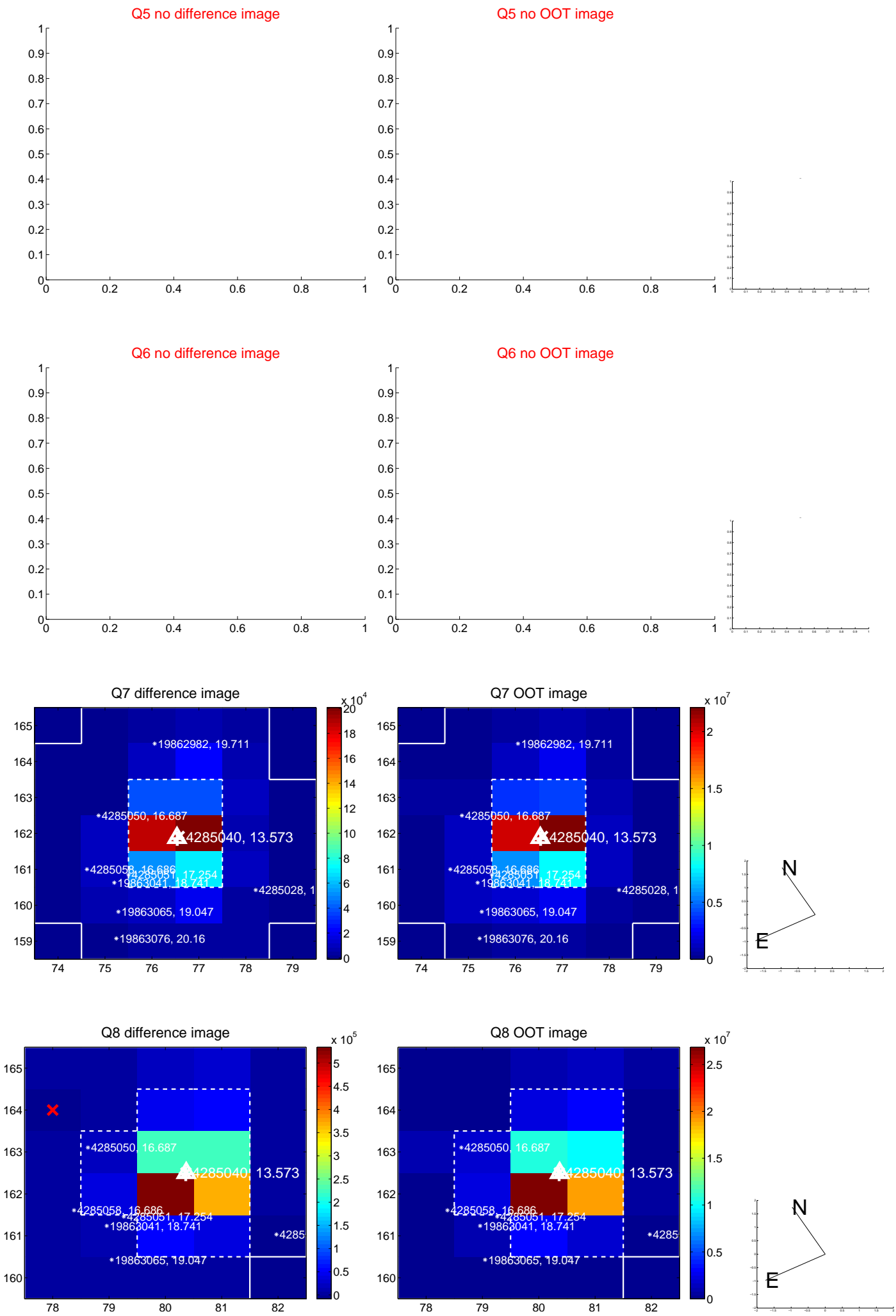


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

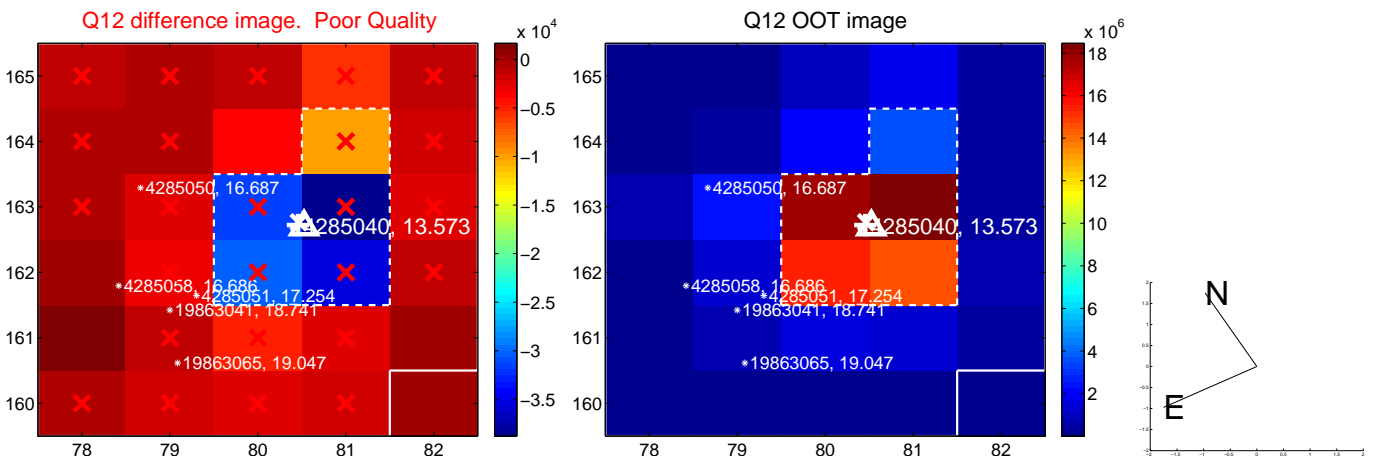
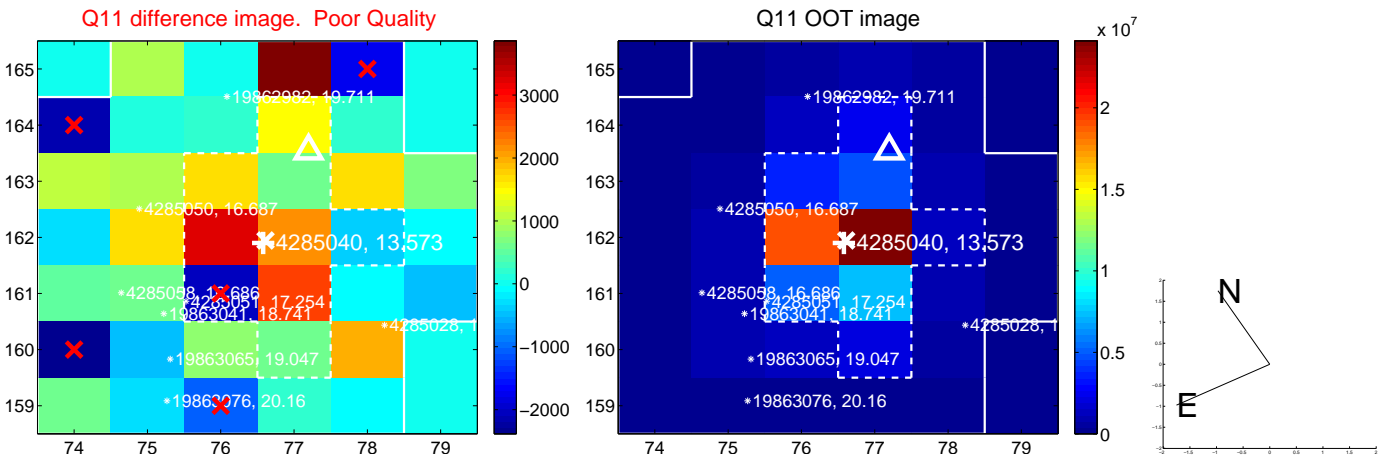
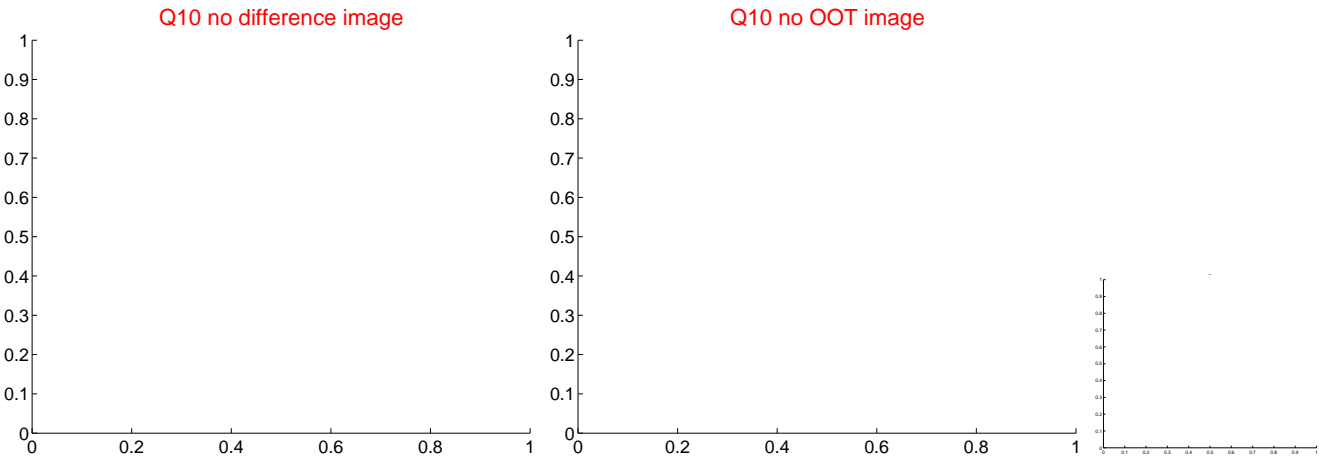
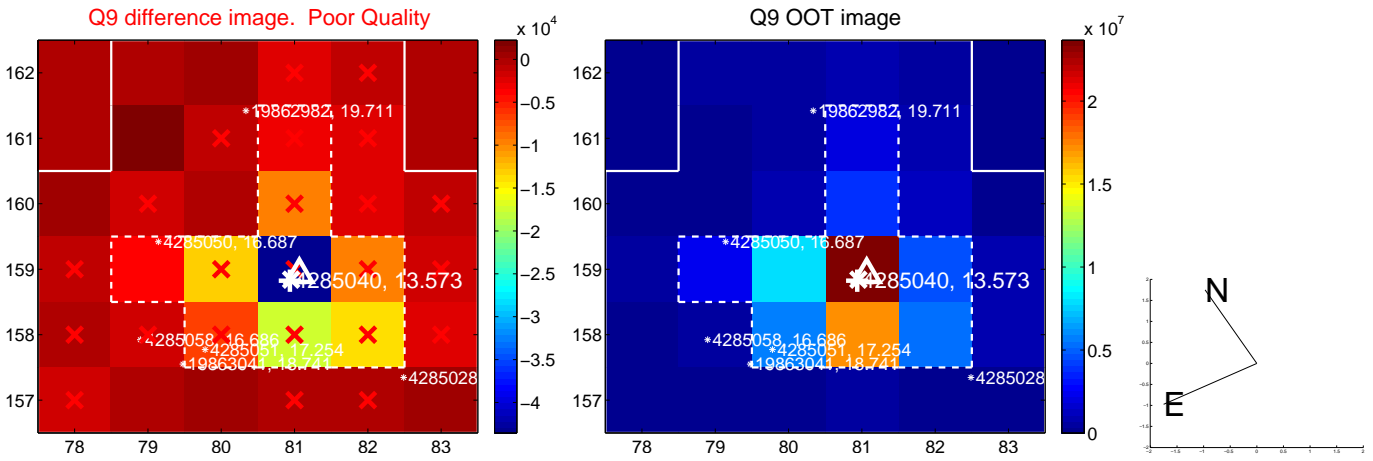
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



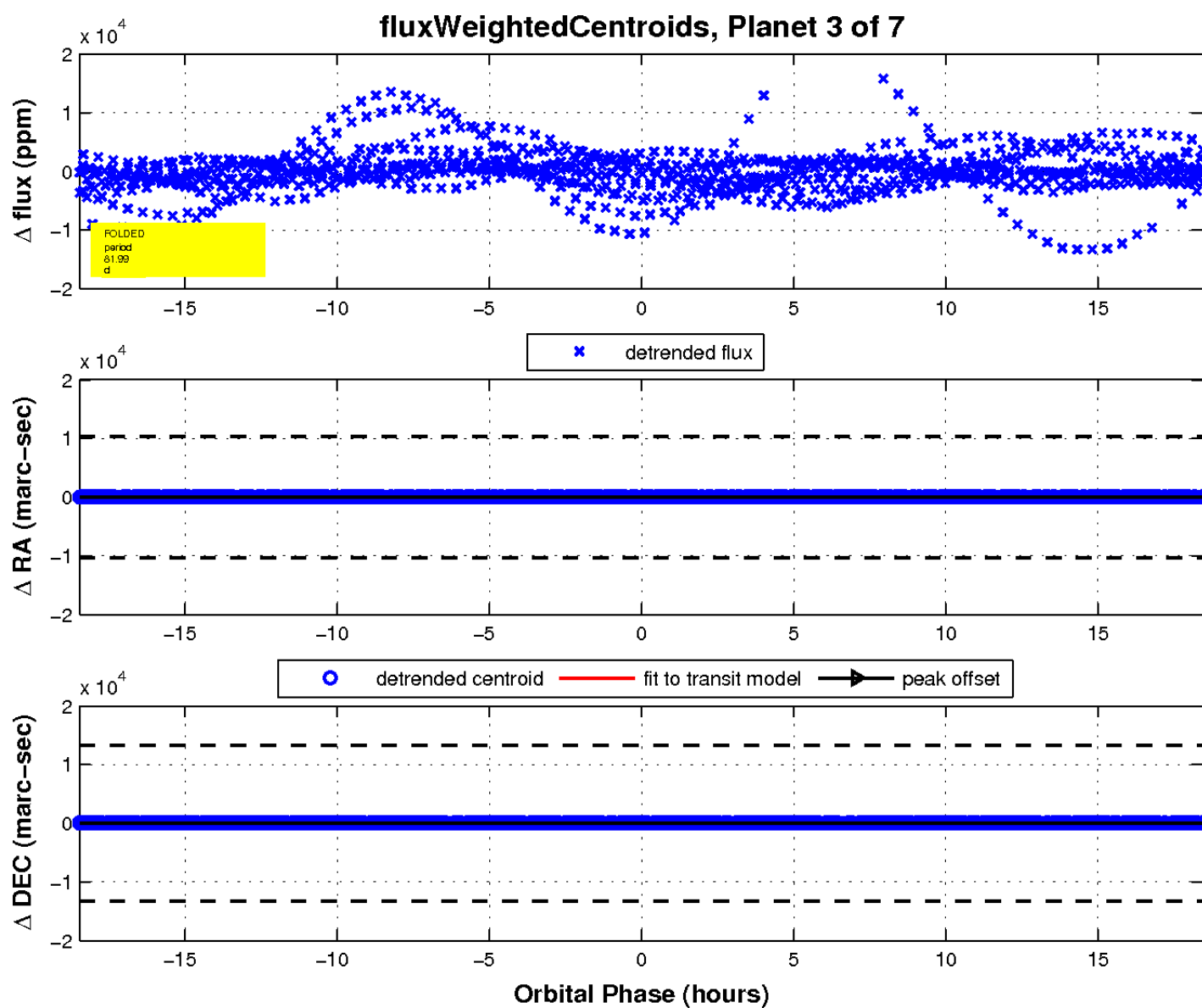
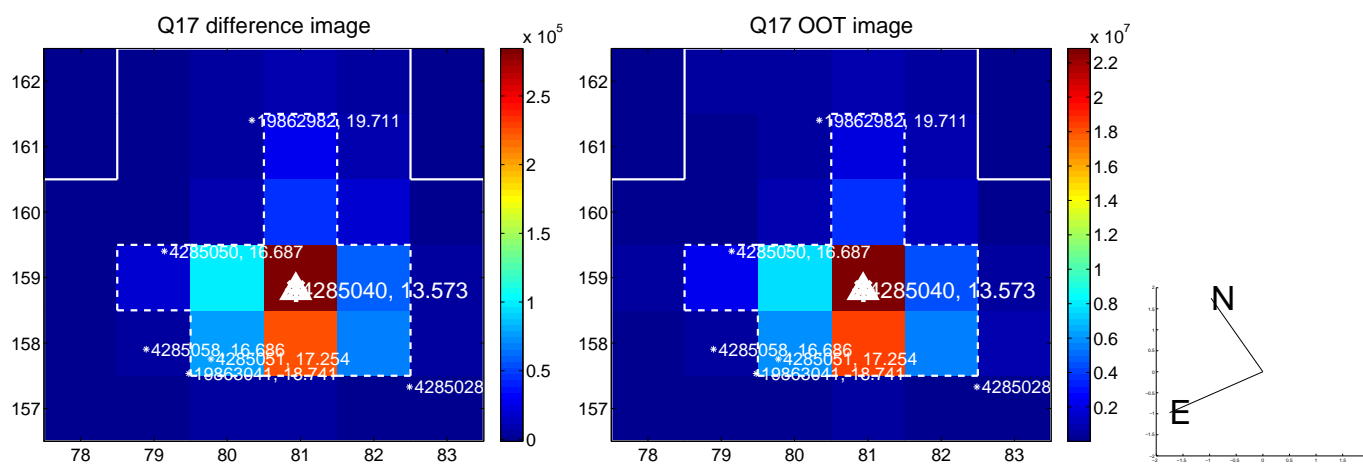
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

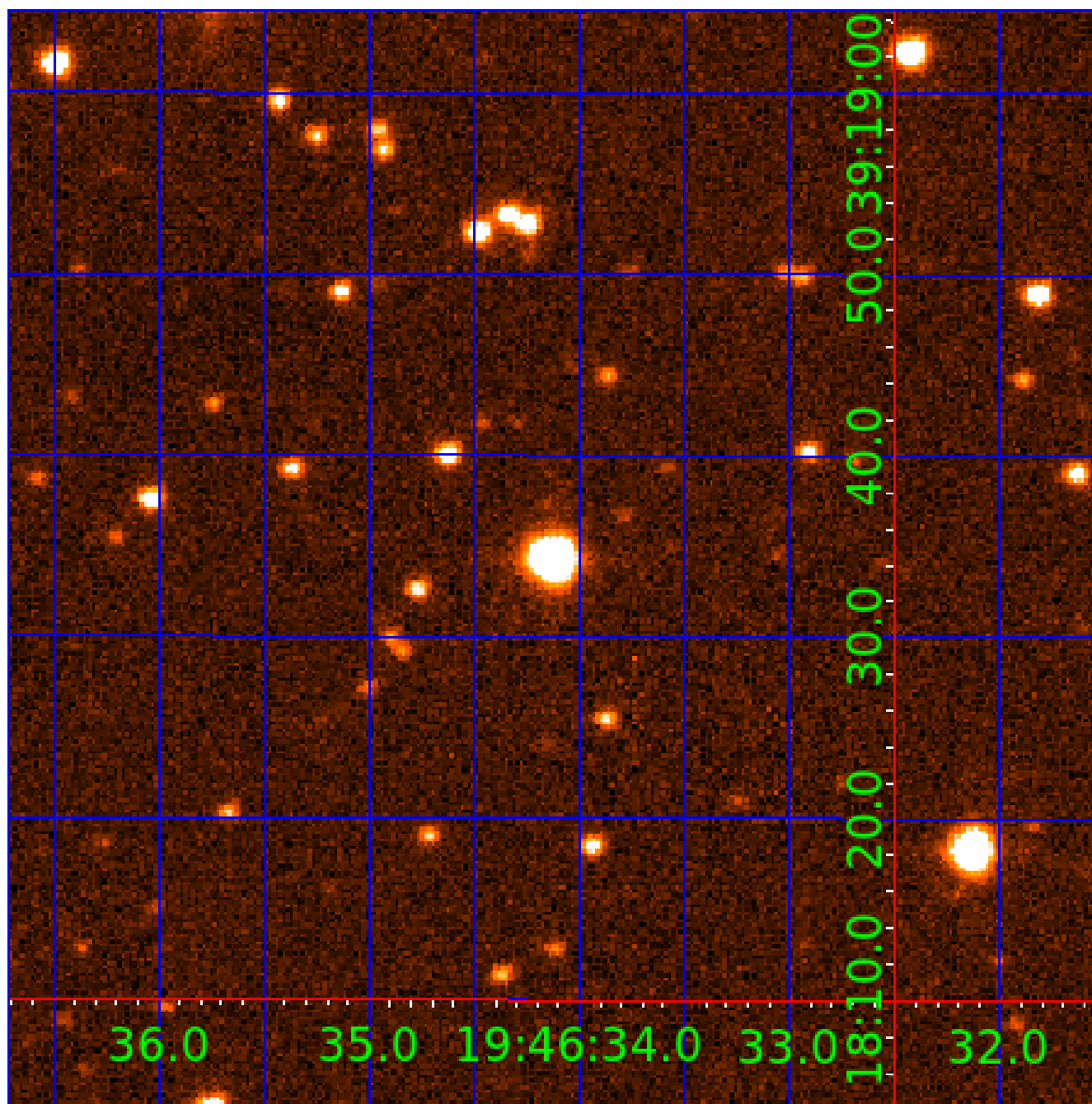


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004285040

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})
004285040-01	OBS	No	0.979586	131.872964	66.5	6.211	8.2	5.8	2.70	7701	2.31	39712.14
004285040-02	OBS	No	74.534187	149.294479	5905.1	7.496	21.0	9.3	2.70	7701	36.77	123.17
004285040-03	OBS	No	81.993201	175.525601	4354.3	6.164	15.0	8.8	2.70	7701	31.84	108.46
004285040-04	OBS	No	79.575131	186.600422	3431.1	4.999	14.4	8.1	2.70	7701	28.43	112.88
004285040-05	OBS	No	119.291949	197.174239	428.1	6.000	10.8	-1.0	2.70	7701	5.67	65.79
004285040-06	OBS	No	101.733249	181.215102	4671.8	7.879	13.1	9.1	2.70	7701	32.90	81.35
004285040-07	OBS	No	1.960053	131.626784	439.7	4.500	11.9	-1.0	2.70	7701	5.74	15750.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004285040-01	OBS	FP	0.00	1	0	0	0	LPP_DV
004285040-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV
004285040-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES
004285040-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT
004285040-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST
004285040-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
004285040-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—CENT_NOFITS

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

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

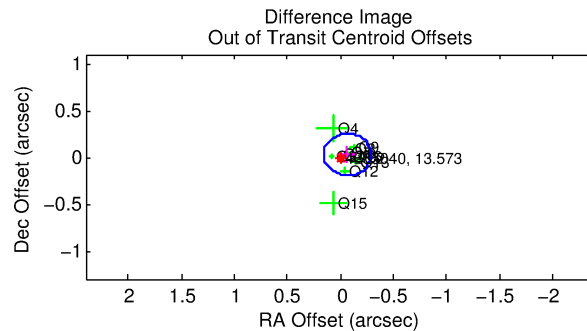
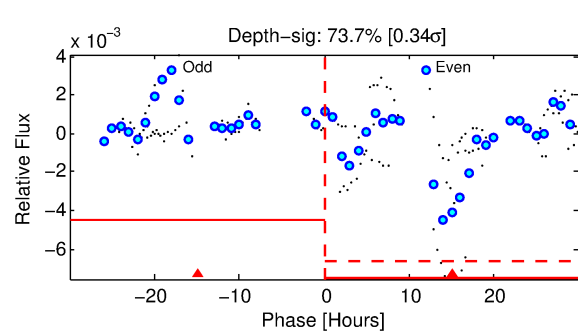
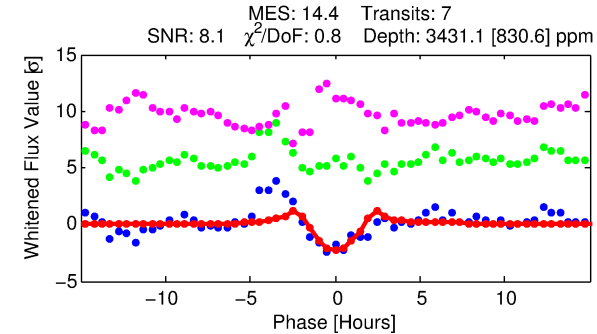
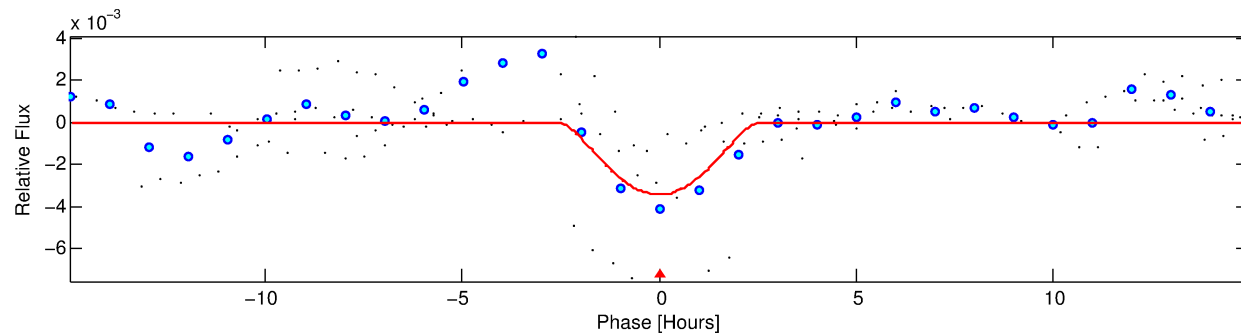
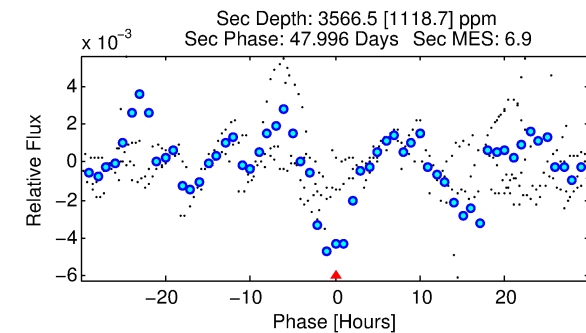
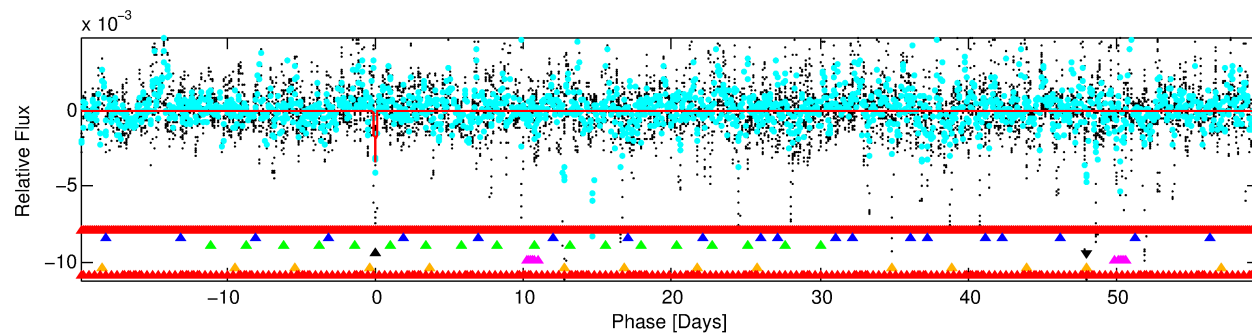
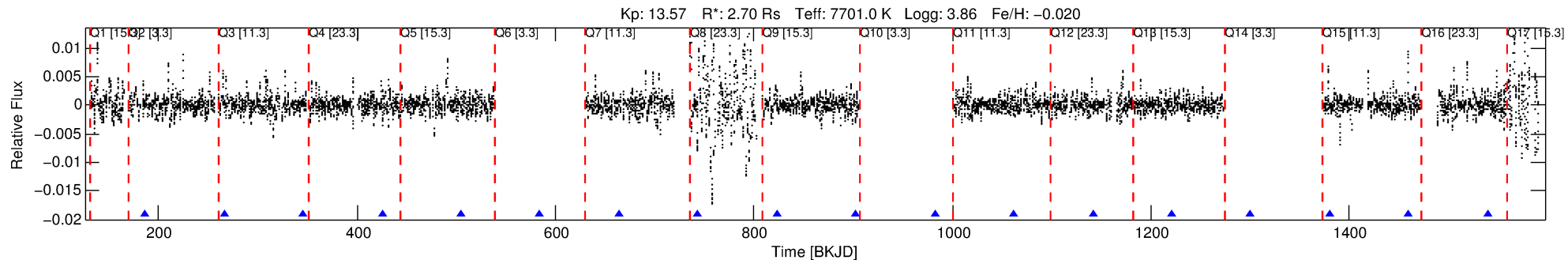
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004285040-04

No Significant Match Found

DV One-Page Summary

KIC: 4285040 Candidate: 4 of 7 Period: 79.575 d



DV Fit Results:

Period = 79.57513 [0.00104] d
Epoch = 186.6004 [0.0114] BKJD
Rp/R* = 0.0964 [0.2460]
a/R* = 54.73 [29.30]
b = 1.00 [0.34]
Seff = 112.88 [63.30]
Teff = 831 [117] K
Rp = 28.44 [73.36] Re
a = 0.4516 [0.1557] AU
Ag = 494.95 [2545.07] [0.19σ]
Teffp = 6061 [7754] K [0.67σ]

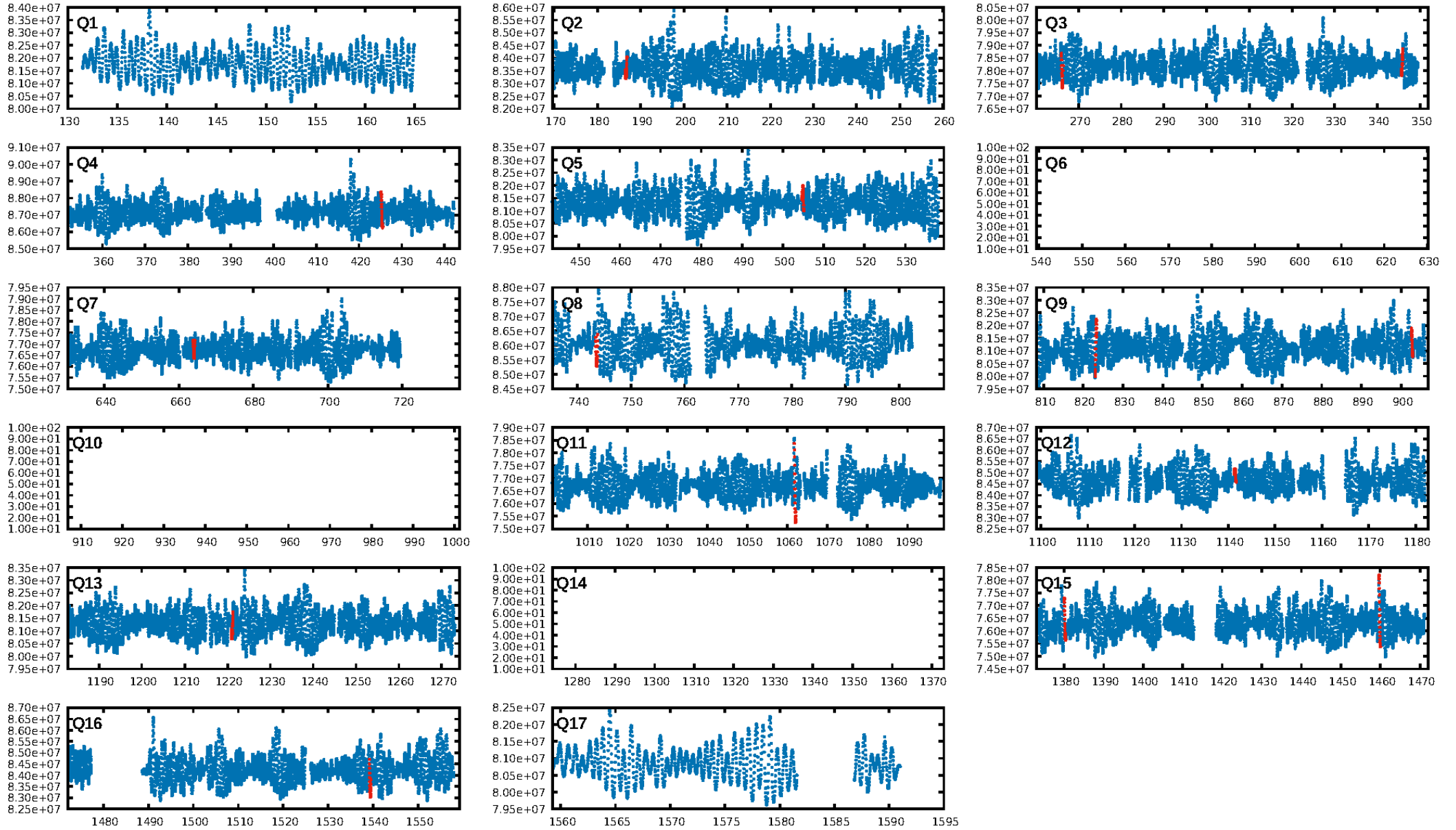
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [13.43σ]
LongPeriod-sig: 100.0% [7.31σ]
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 0.7656
Centroid-sig: 0.2%
Centroid-so: 0.303 arcsec [2.69σ]
OotOffset-rm: 0.073 arcsec [0.99σ]
KicOffset-rm: 0.100 arcsec [1.10σ]
OotOffset-st: 1/4/4/2 [11]
KicOffset-st: 1/4/4/2 [11]
DiffImageQuality-fgm: 0.82 [9/11]
DiffImageOverlap-fno: 0.00 [0/11]

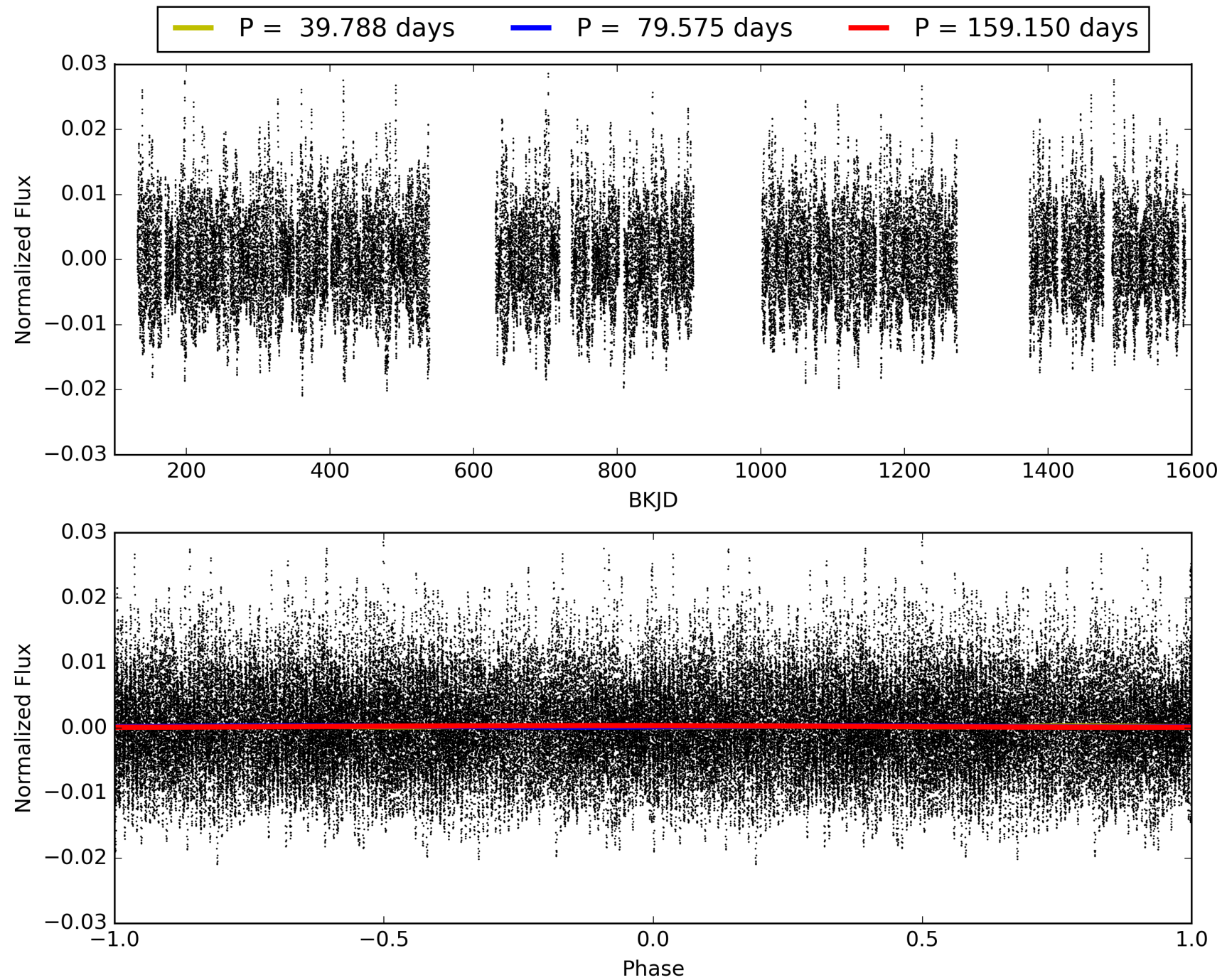
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:45:21 Z

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

TCE 004285040-04, PDC Light Curves

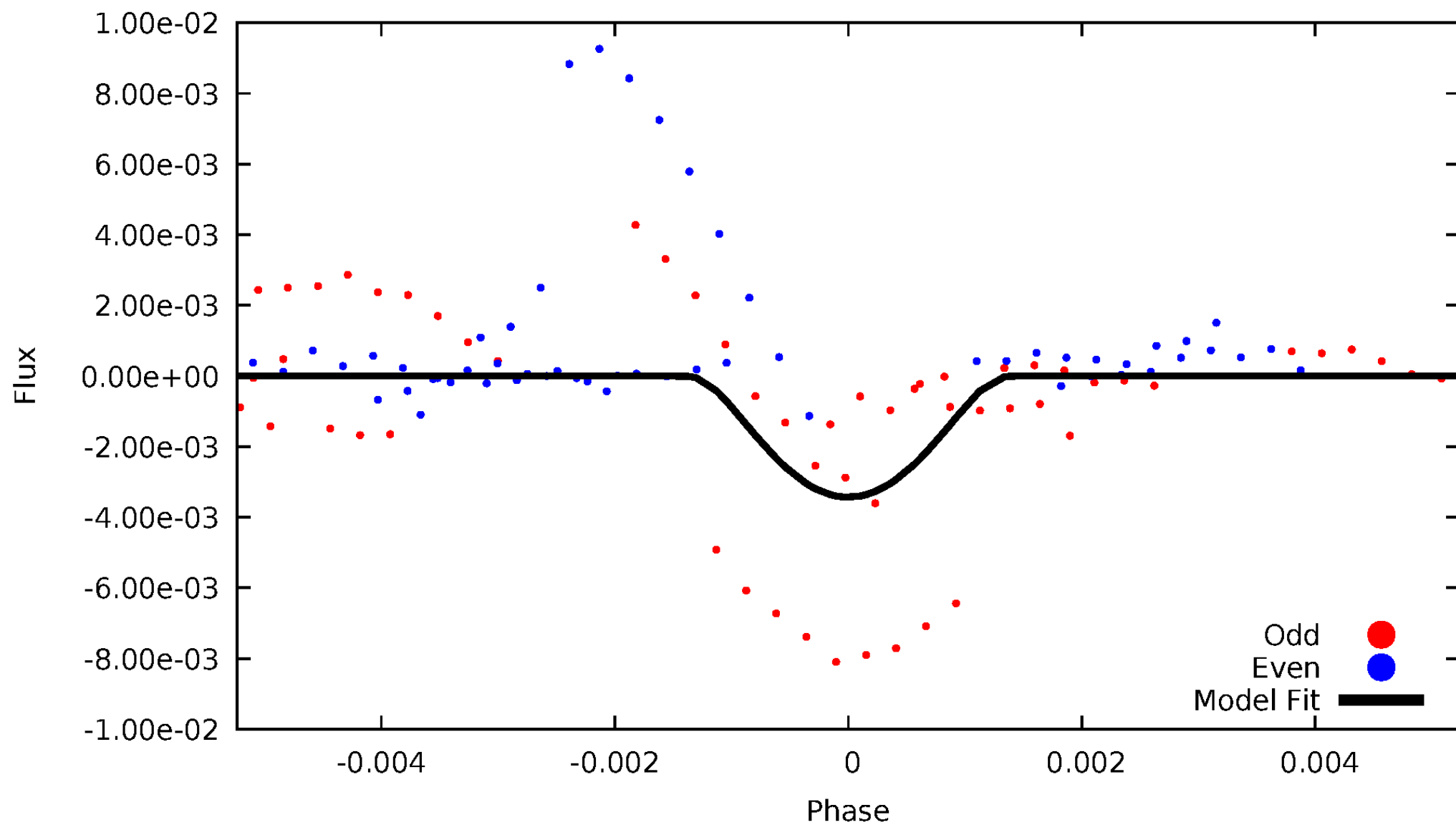


TCE 004285040-04



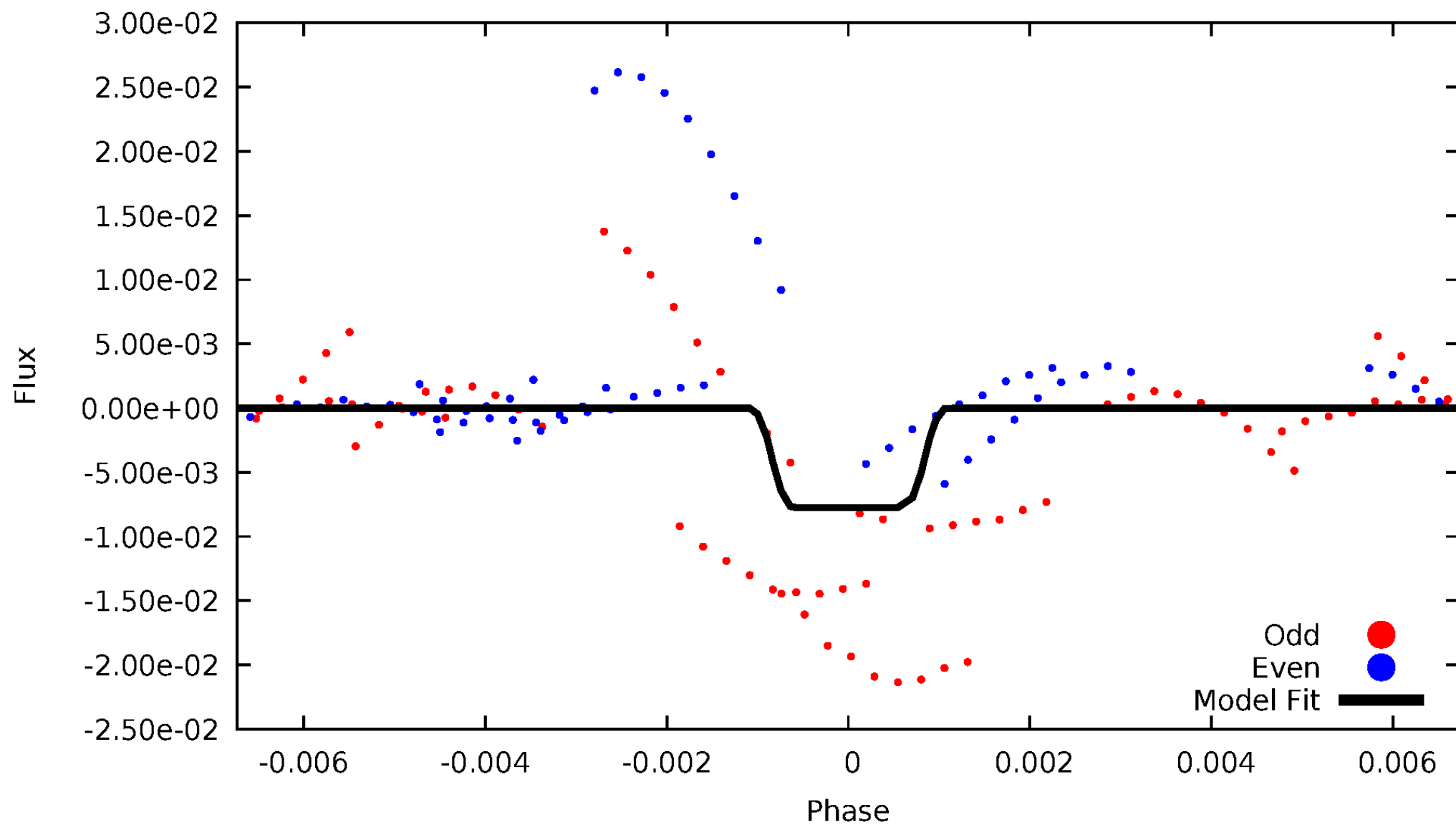
DV Odd/Even

TCE 004285040-04



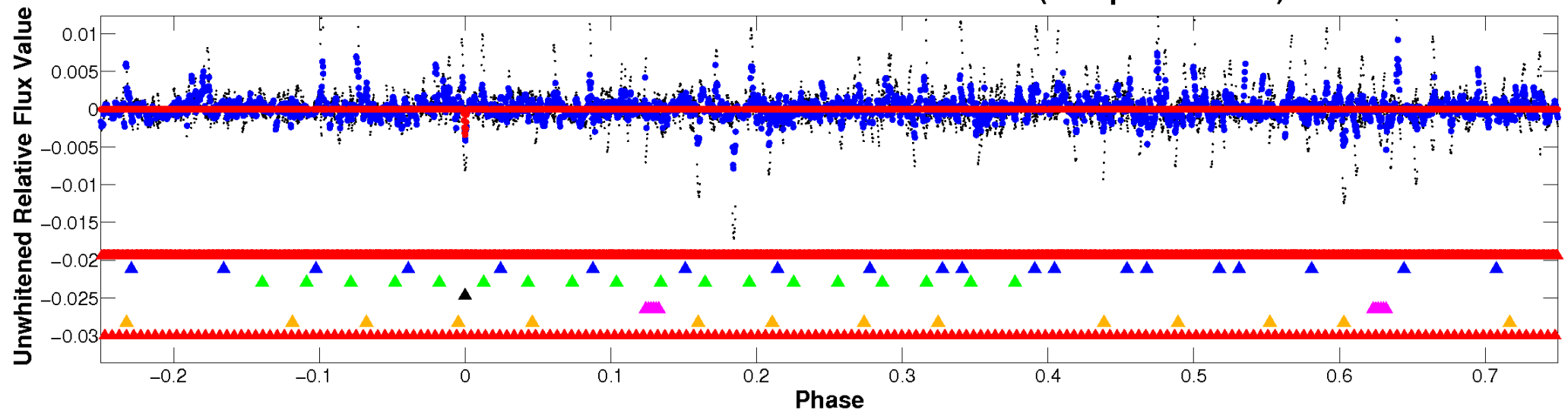
ALT Odd/Even

TCE 004285040-04

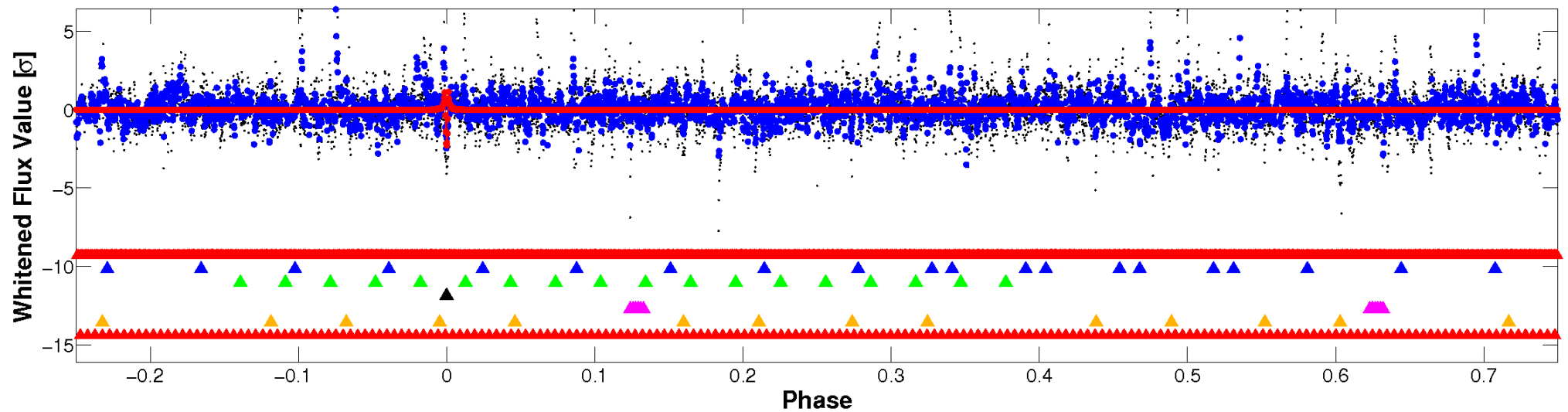


Non-Whitened Vs. Whitened Light Curve

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

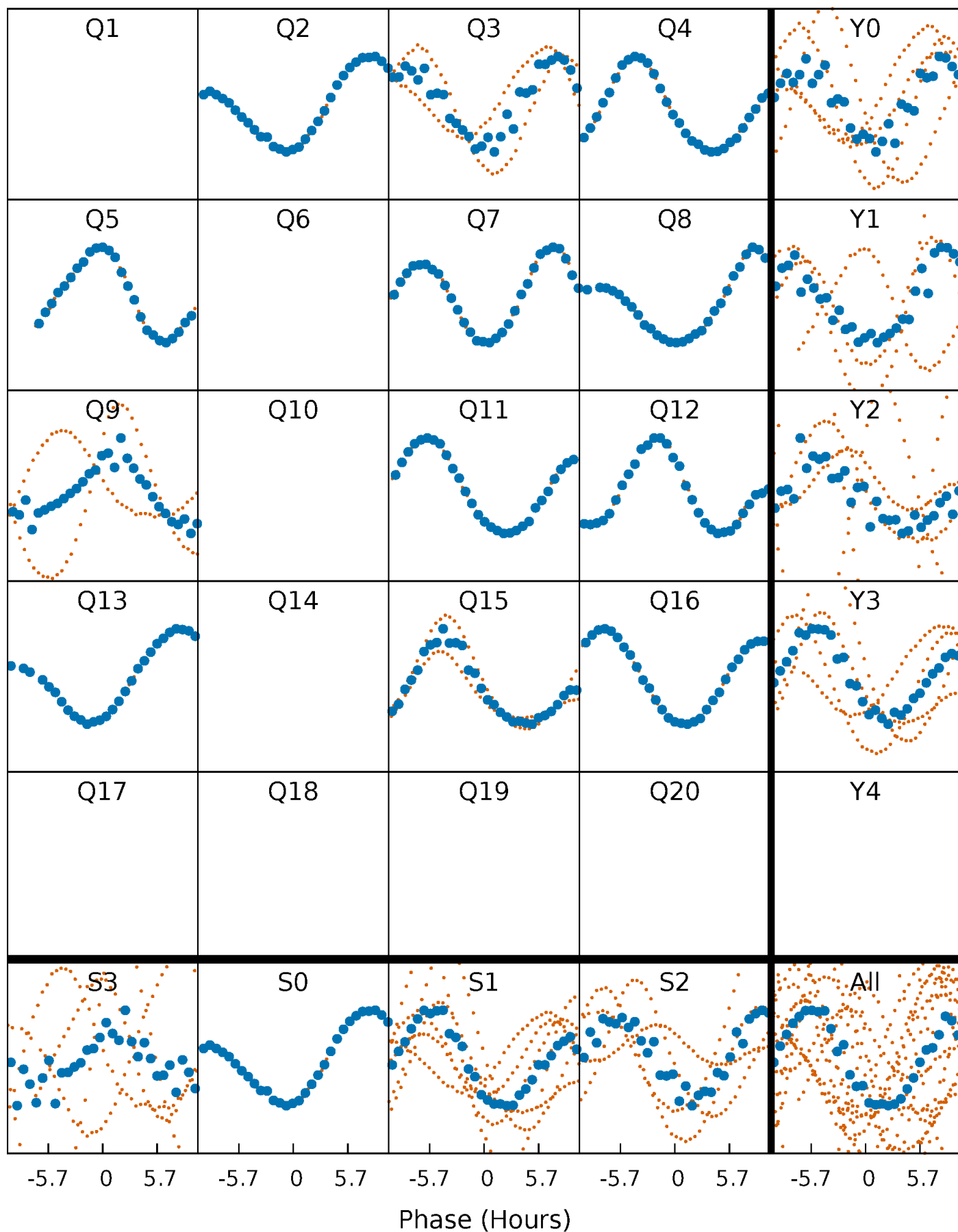


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



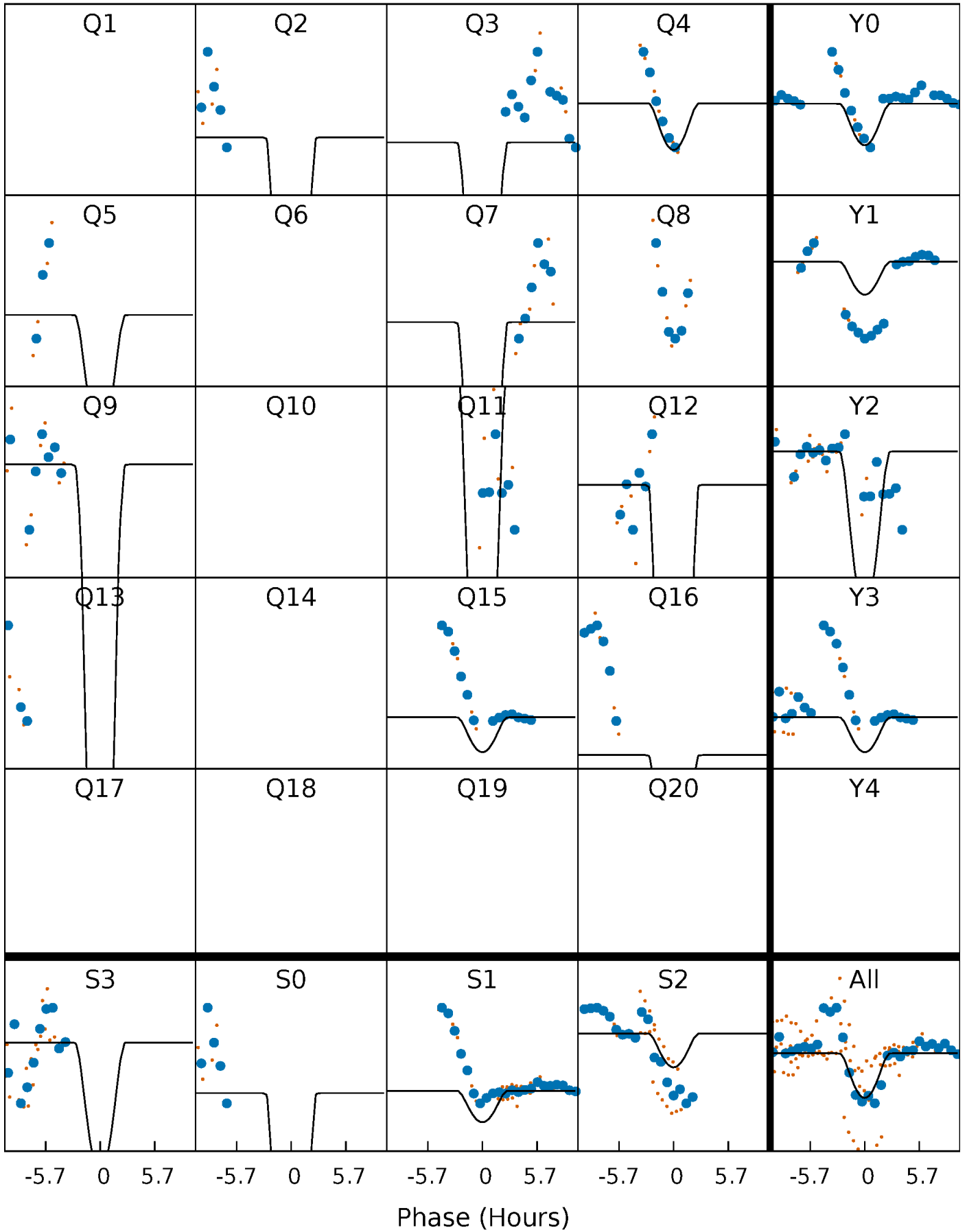
PDC Quarter-Phased Transit Curves

TCE 004285040-04 P= 79.575131 Days $T_0=186.600423$ (BKJD)



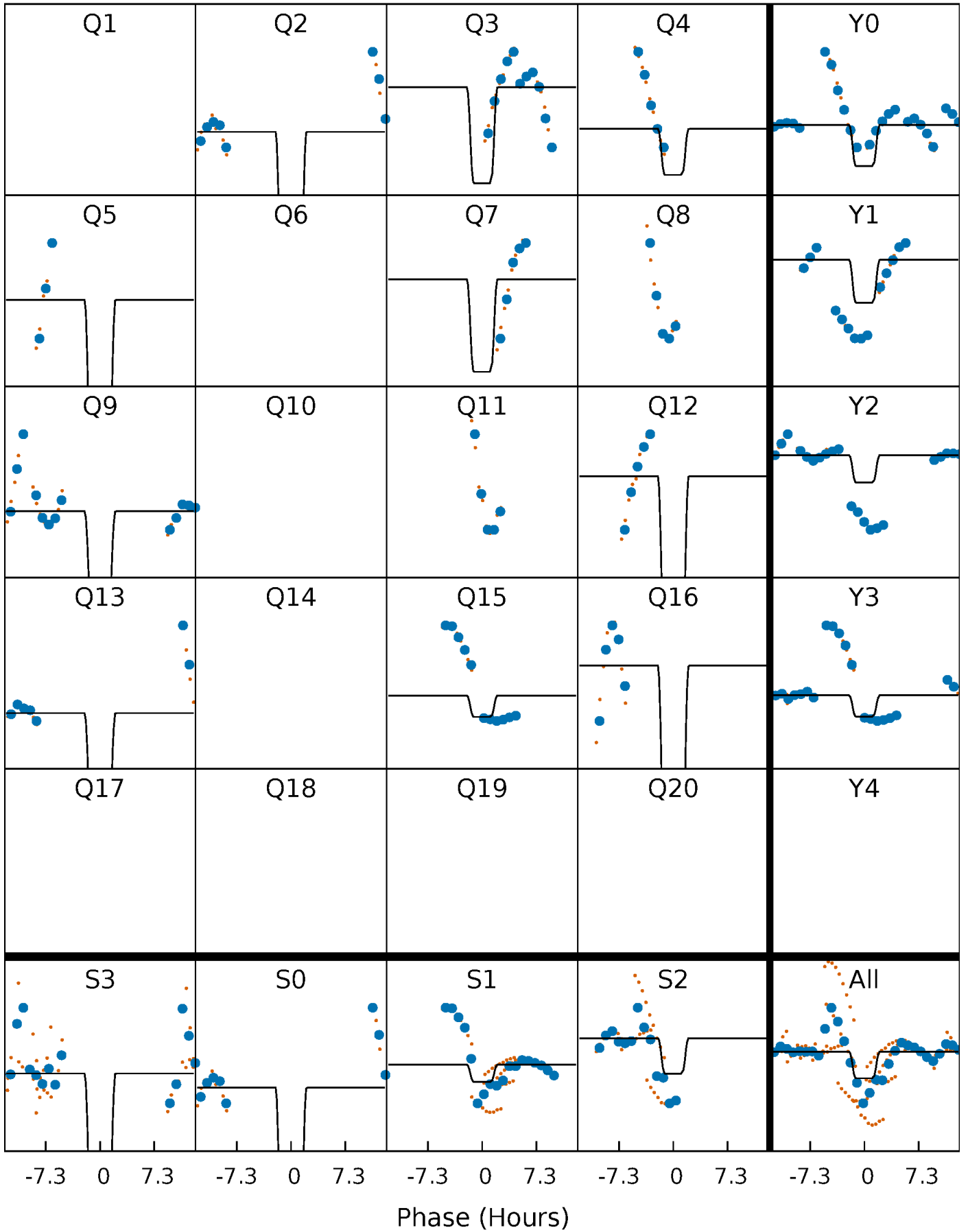
DV Quarter-Phased Transit Curves

TCE 004285040-04 P= 79.575131 Days $T_0=186.600423$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

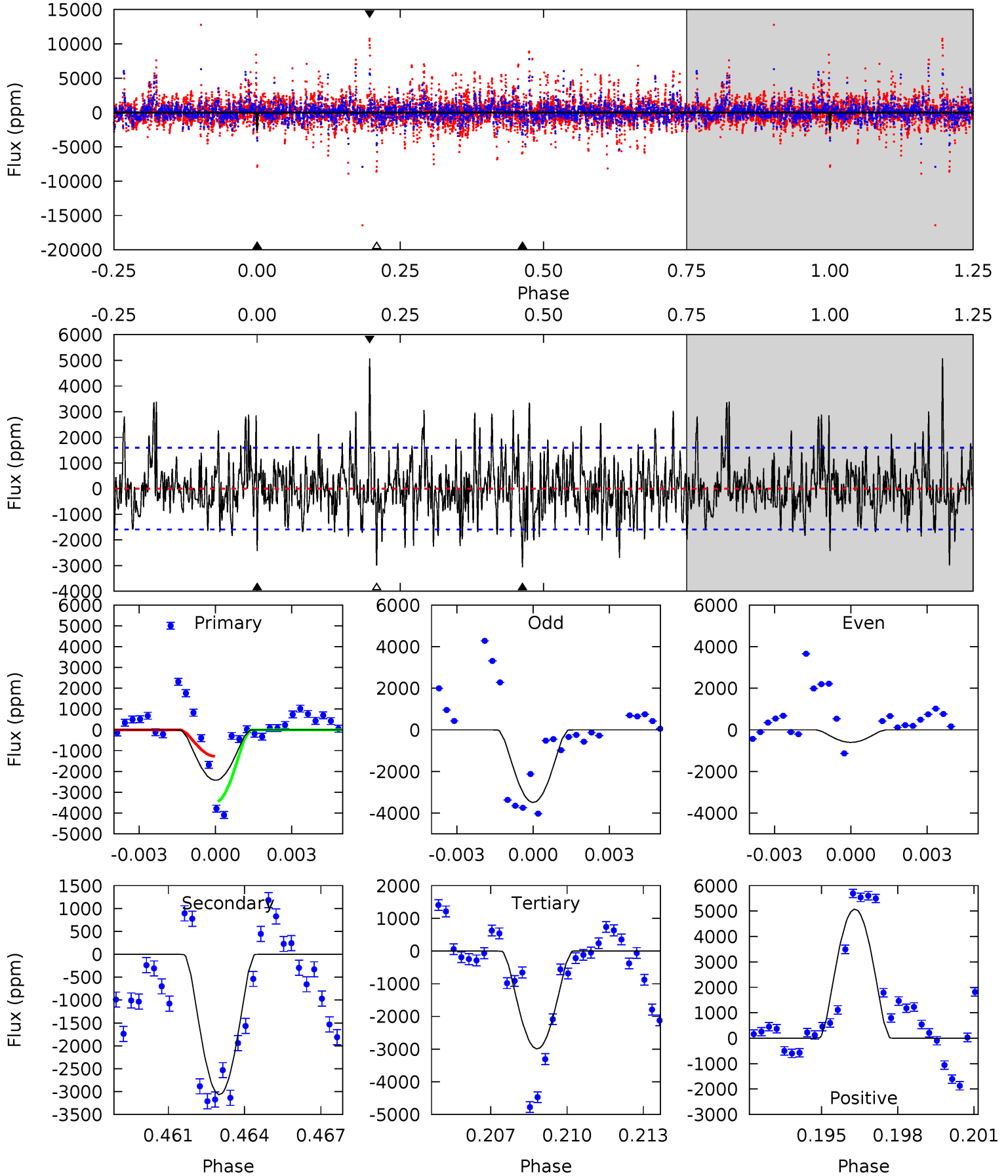
TCE 004285040-04 P= 79.572296 Days $T_0=186.678081$ (BKJD)



DV Model-Shift Uniqueness Test

004285040-04, P = 79.575131 Days, E = 107.025292 Days

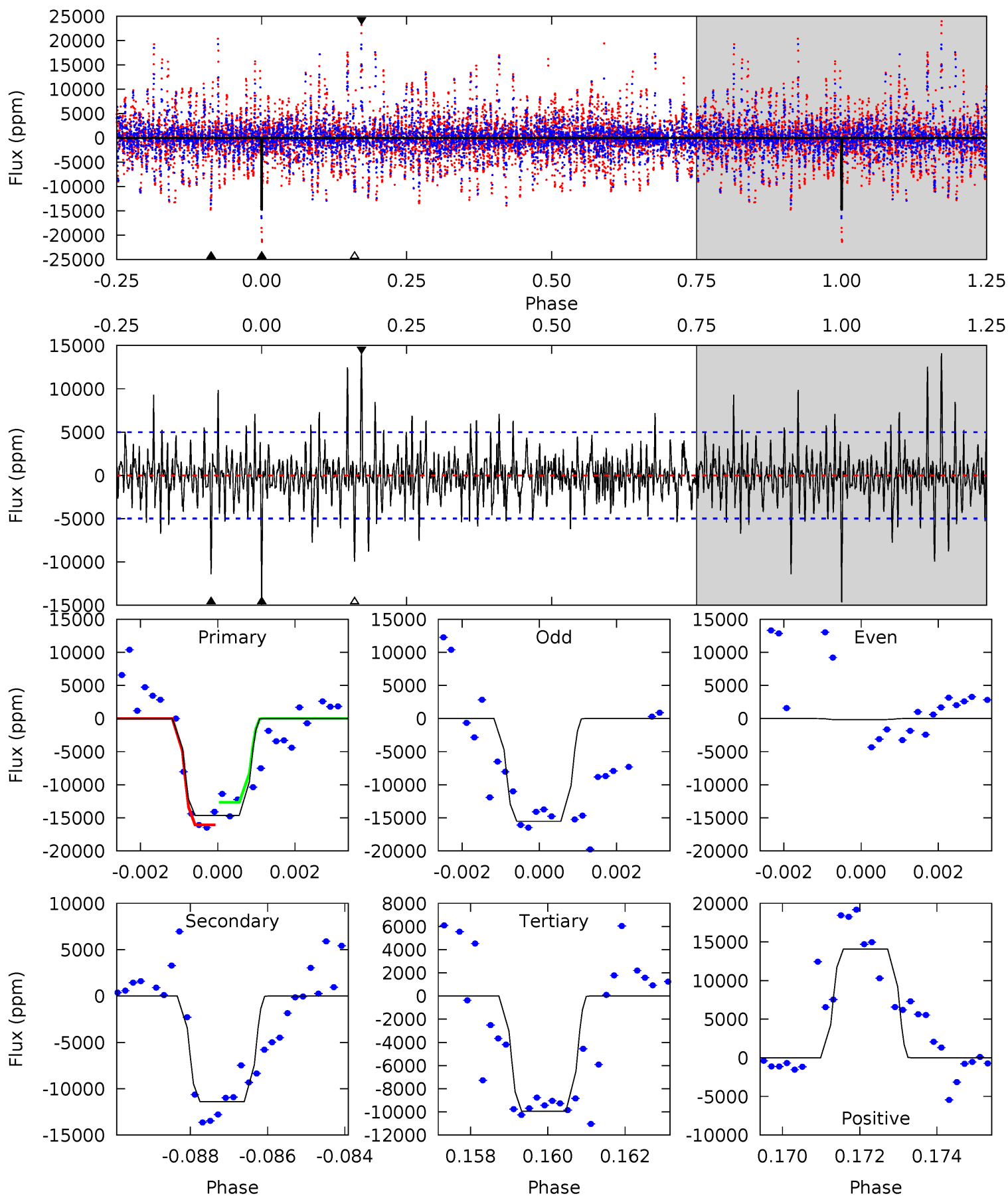
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.02	10.1	9.88	16.8	5.26	2.97	3.01	-1.87	-8.75	0.25	-6.64	4.00	3.21	0.62	3.65



Alt Model-Shift Uniqueness Test

004285040-04, P = 79.572296 Days, E = 107.105785 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	12.2	10.6	15.1	5.33	3.10	2.40	5.04	0.61	1.56	-2.87	7.43	0.95	0.49	1.77



Stellar Parameters For KIC 004285040

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7701^{+214}_{-322}	$3.862^{+0.308}_{-0.103}$	$-0.020^{+0.200}_{-0.350}$	$2.703^{+0.436}_{-1.017}$	$1.939^{+0.110}_{-0.467}$	$0.138^{+0.289}_{-0.046}$
	+3%/-4%	+8%/-3%	+1000%/-1750%	+16%/-38%	+6%/-24%	+209%/-34%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004285040-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3066 ± 303	$57.57^{+54.49}_{-38.73}$	1134^{+80}_{-116}	4138^{+2533}_{-816}	102^{+815}_{-74}
Alt.	-11398 ± 934	$53.81^{+60.54}_{-36.28}$	1127^{+83}_{-103}	5509^{+5340}_{-1343}	430^{+3607}_{-333}

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 $A_{obs} \gg 1.0$

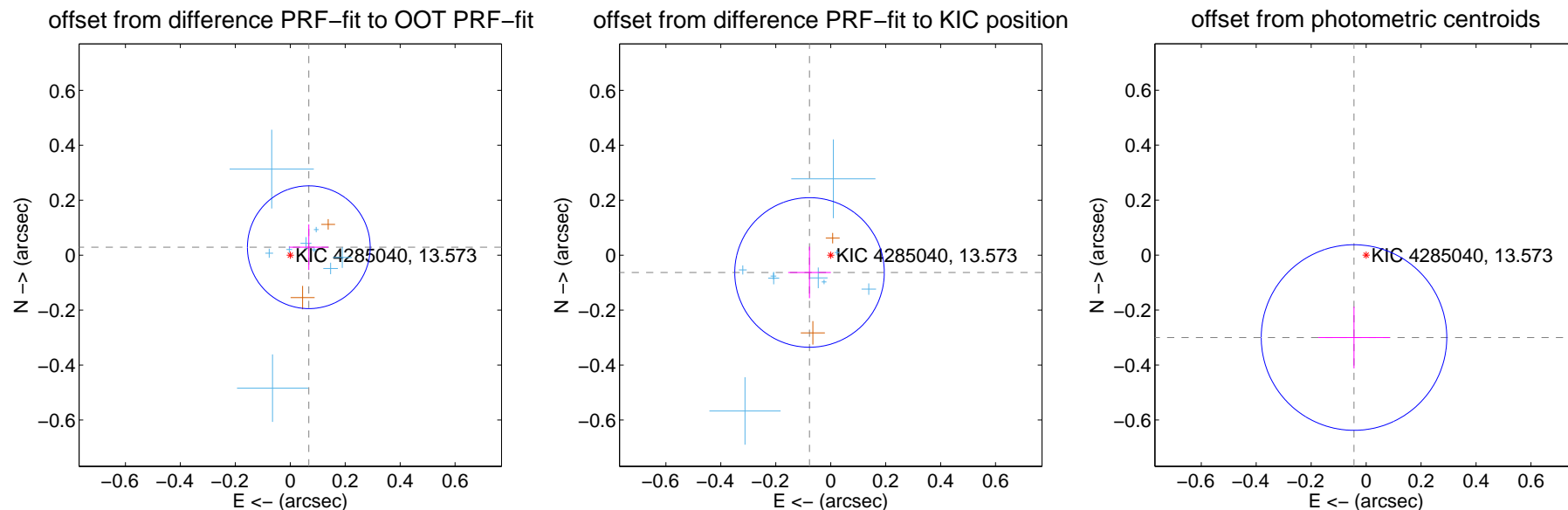
DV Centroid Data

Supplemental centroid analysis for 004285040-04. Kepler magnitude: 13.57. Transit SNR 8.06

There are 9 quarters with good PRF difference image offsets

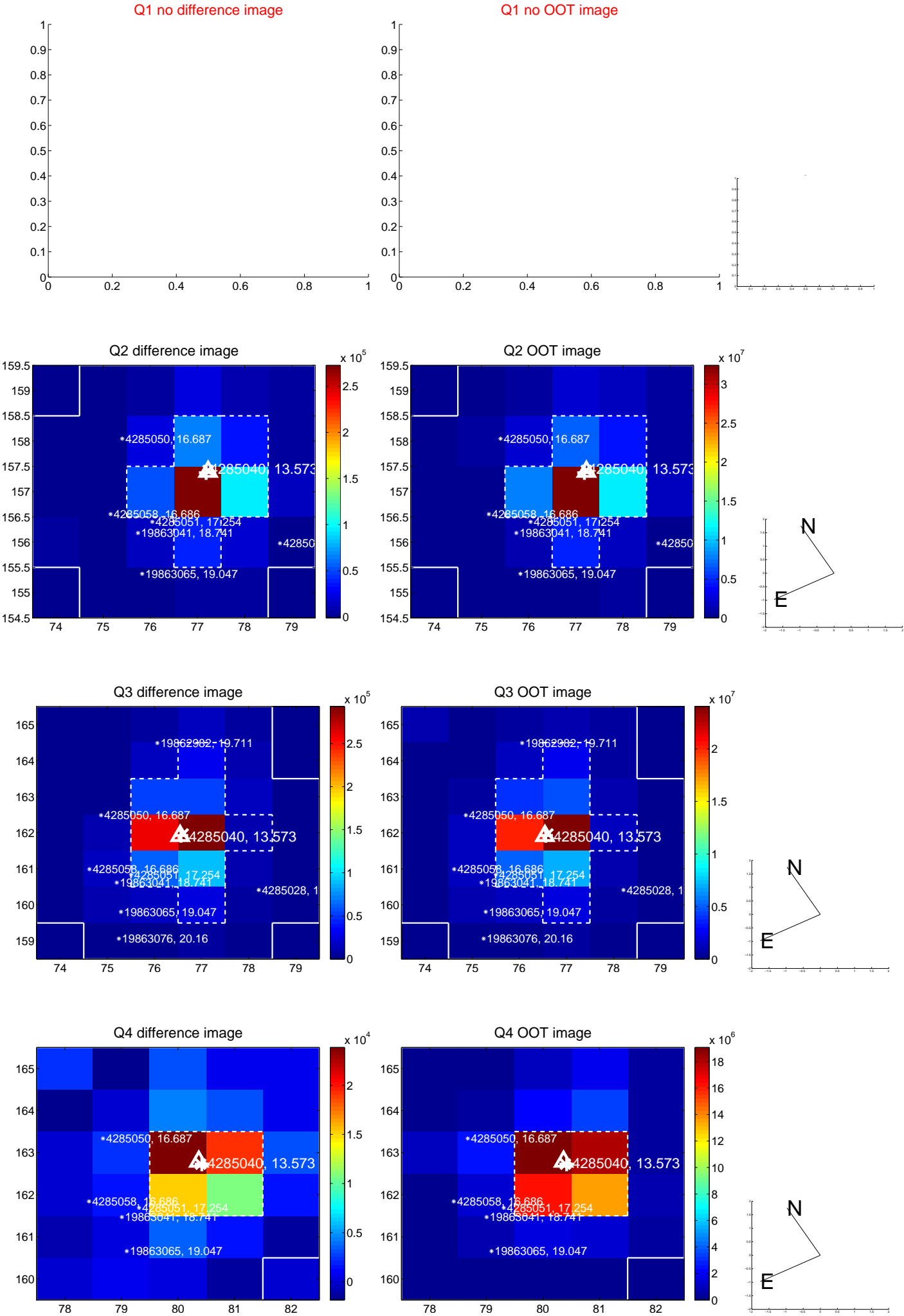
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.073 ± 0.074	0.99	-0.068 ± 0.071	0.029 ± 0.083
PRF-fit source offset from KIC position	0.100 ± 0.091	1.10	0.077 ± 0.078	-0.063 ± 0.094
photometric centroid source offset	0.30 ± 0.11	2.69	0.04 ± 0.13	-0.30 ± 0.11



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

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



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

Q5 no difference image



Q5 no OOT image



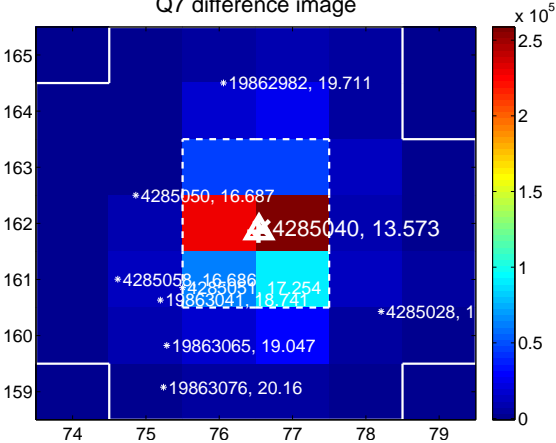
Q6 no difference image



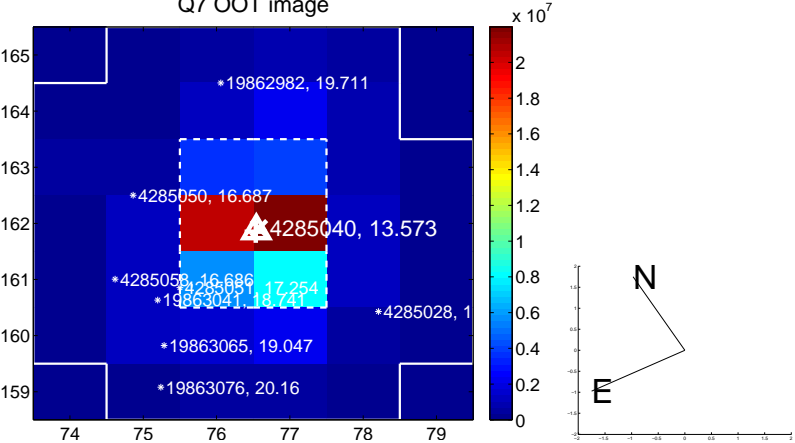
Q6 no OOT image



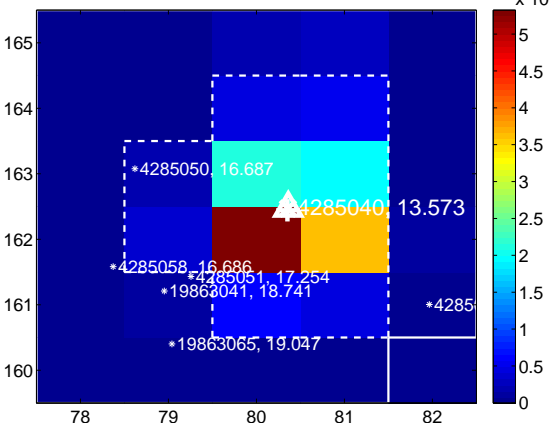
Q7 difference image



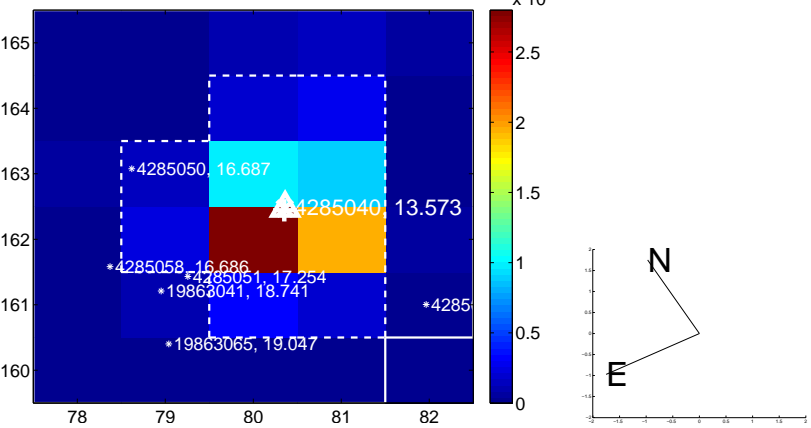
Q7 OOT image



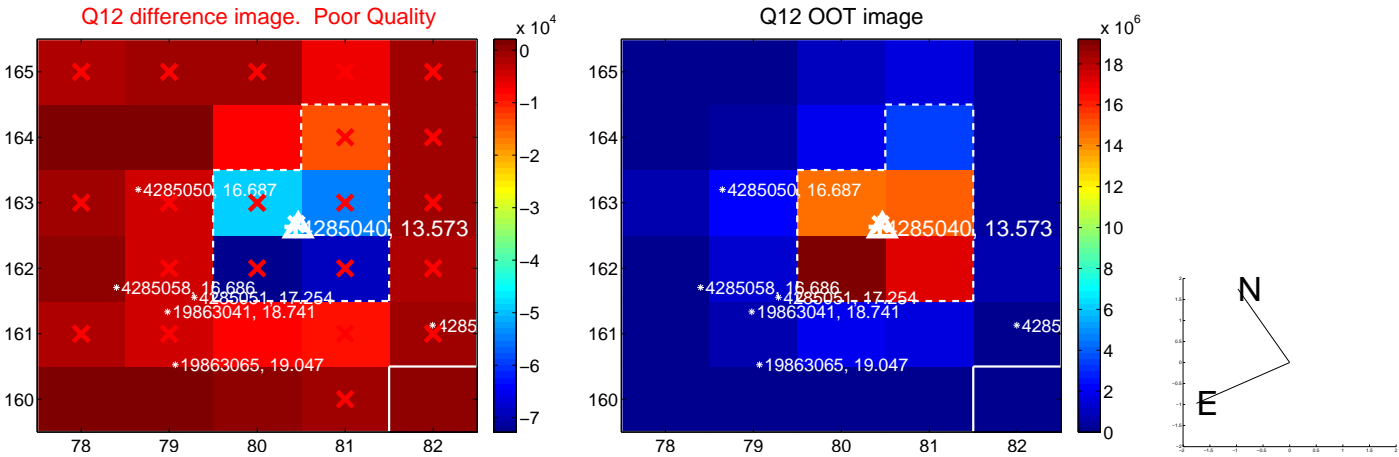
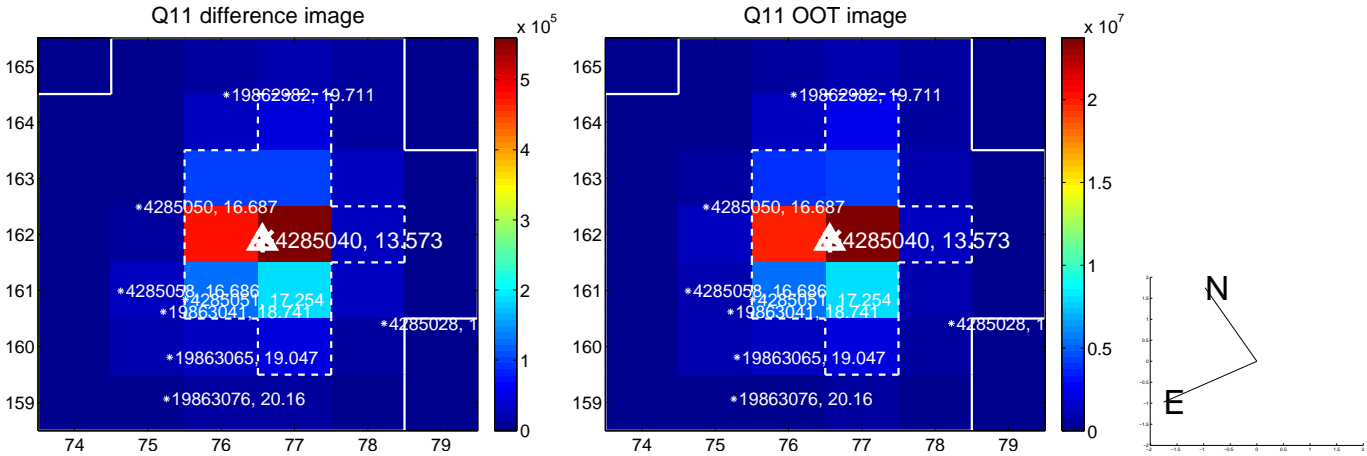
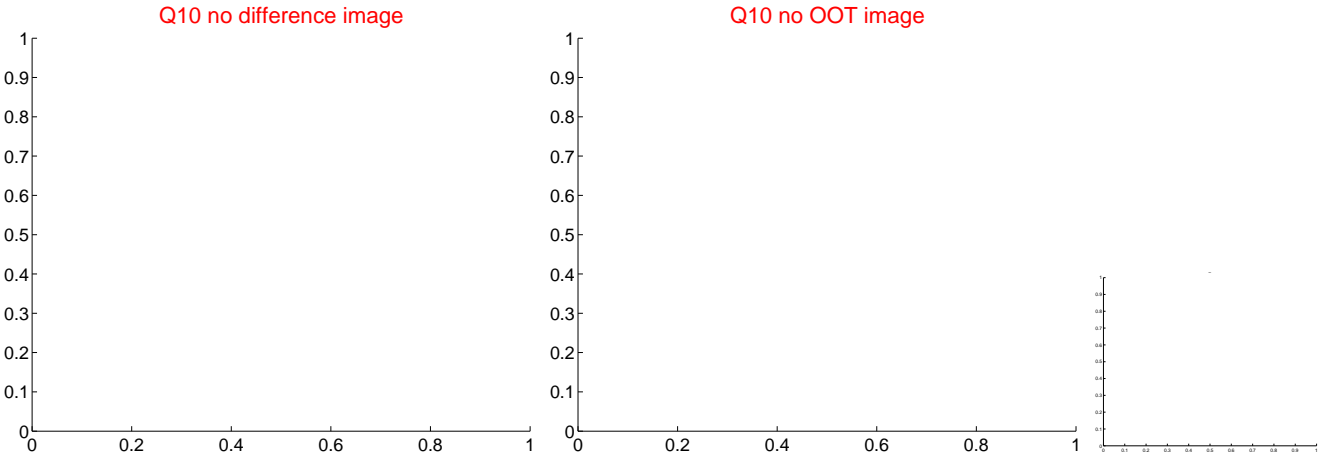
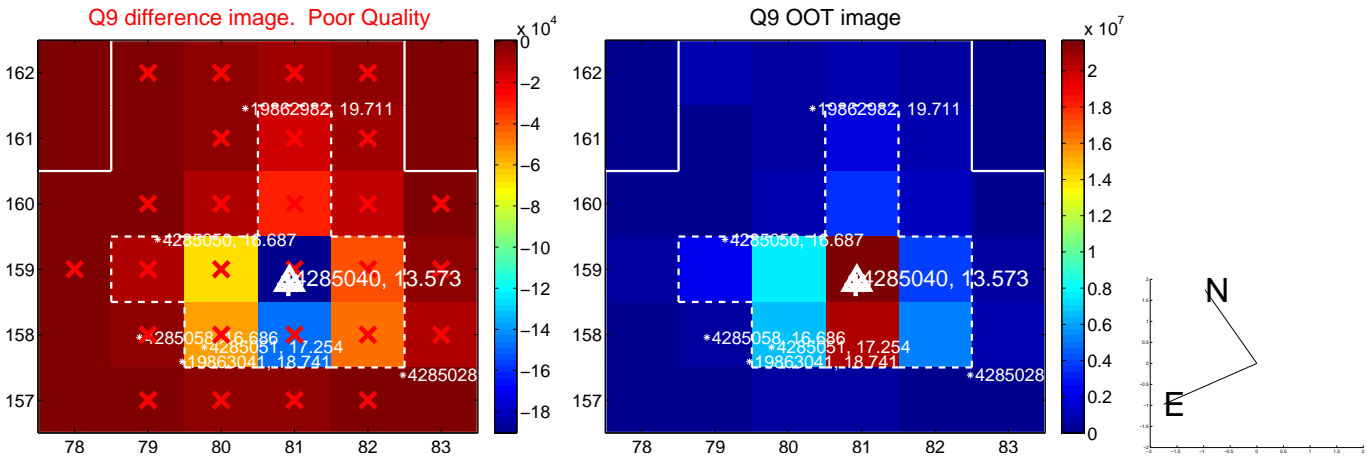
Q8 difference image



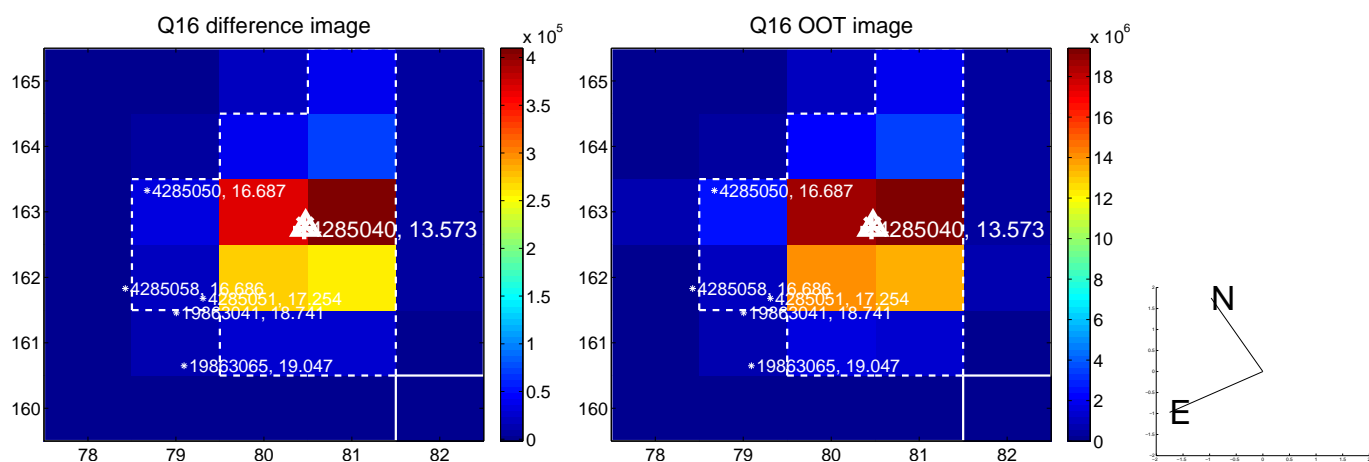
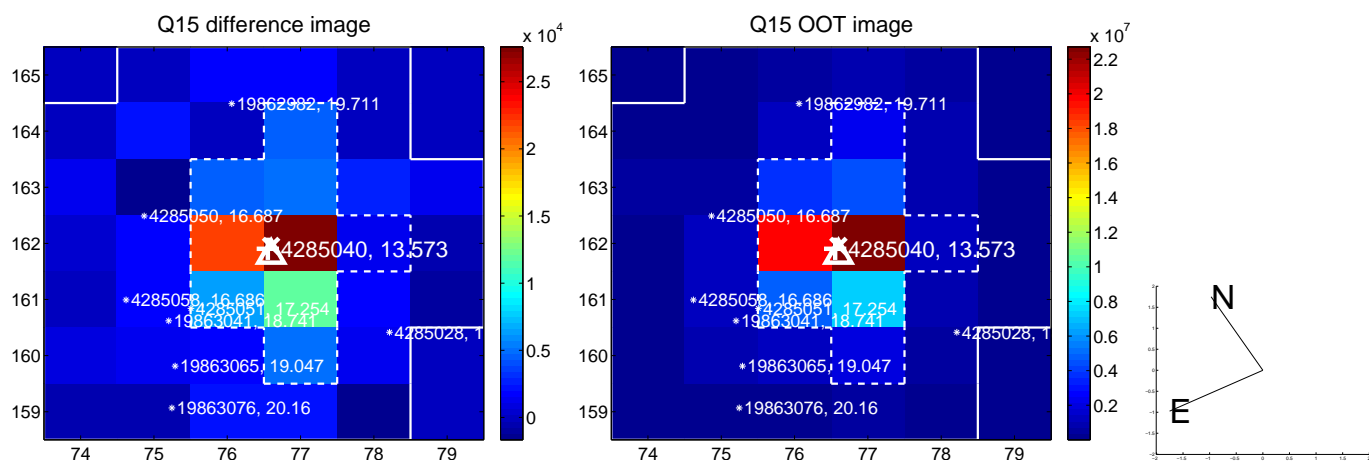
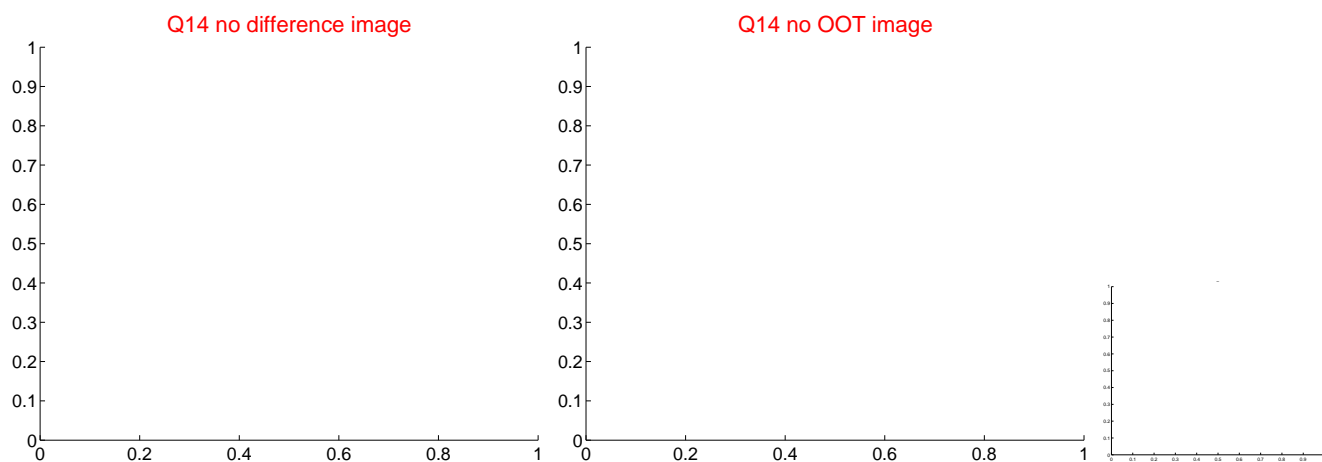
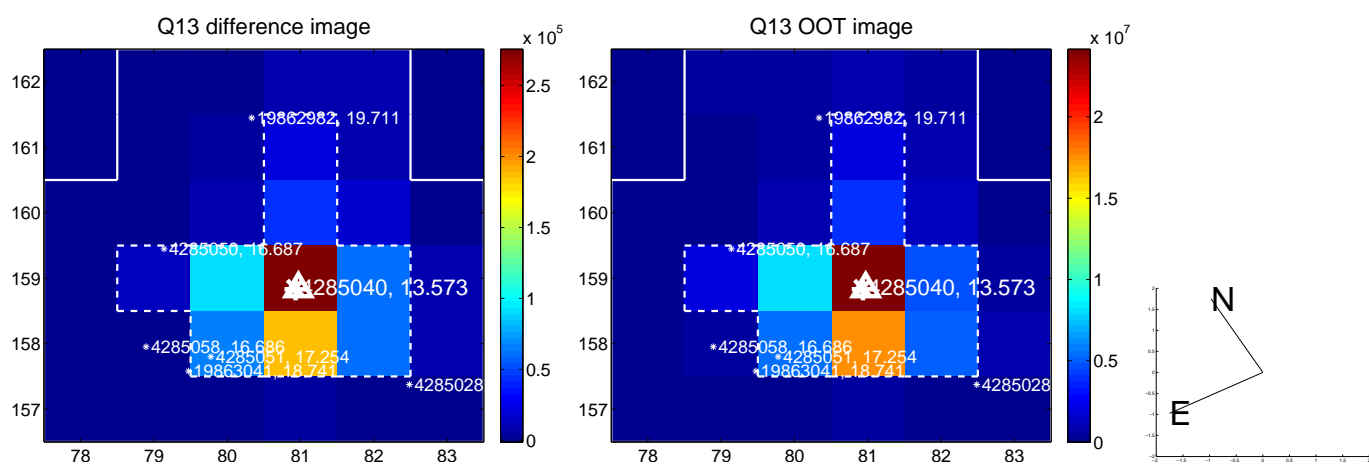
Q8 OOT image



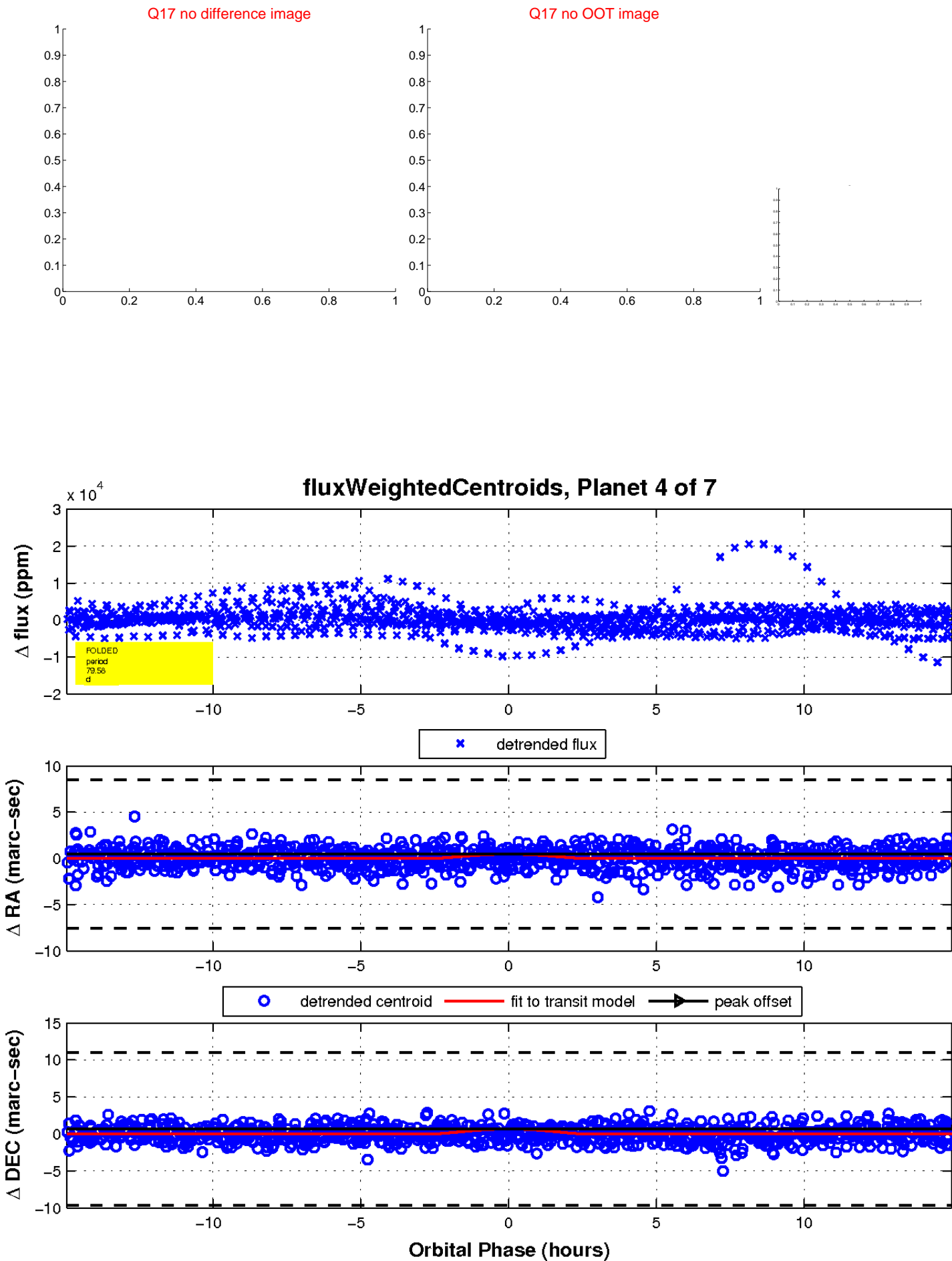
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

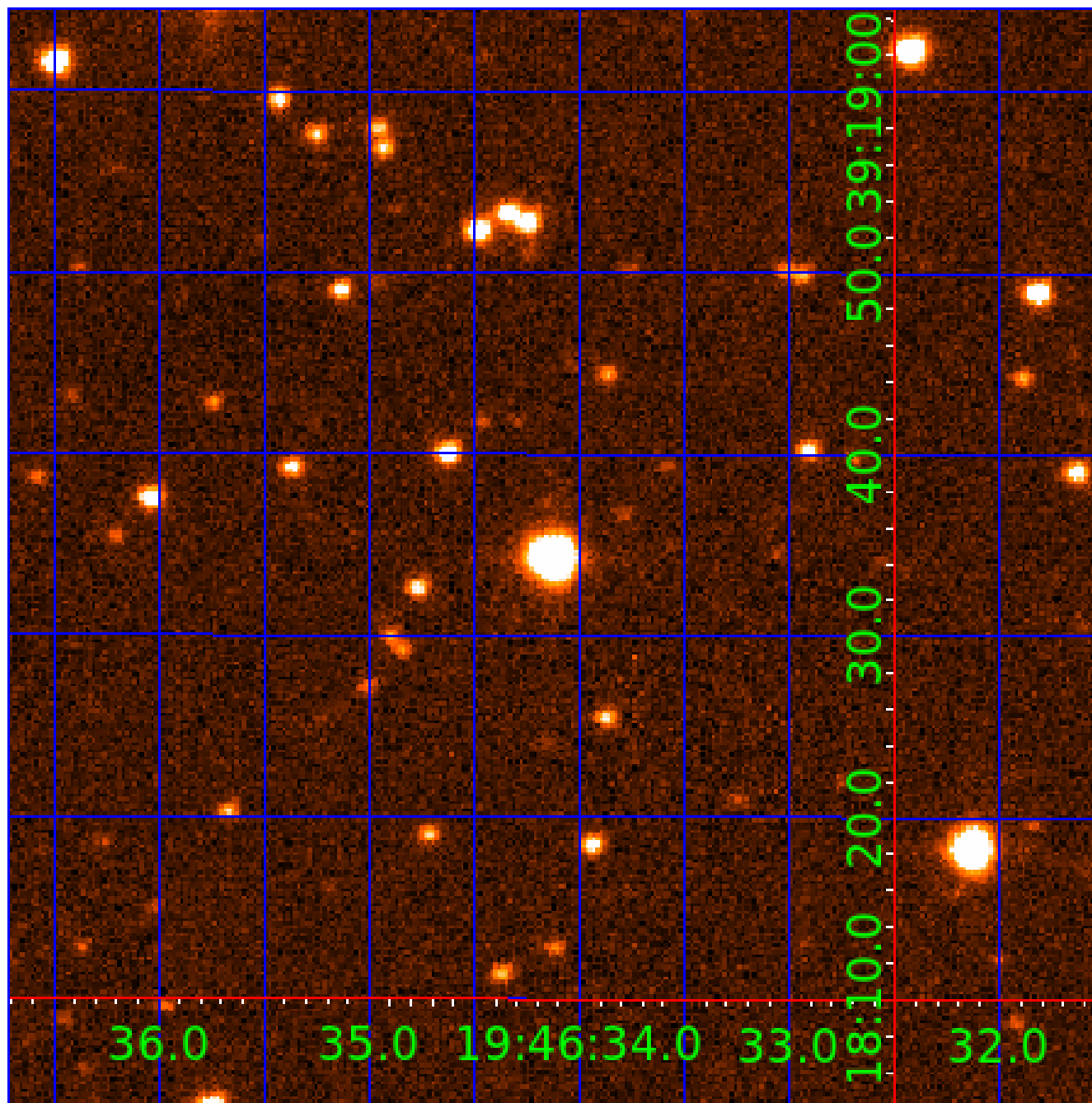


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004285040

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})
004285040-01	OBS	No	0.979586	131.872964	66.5	6.211	8.2	5.8	2.70	7701	2.31	39712.14
004285040-02	OBS	No	74.534187	149.294479	5905.1	7.496	21.0	9.3	2.70	7701	36.77	123.17
004285040-03	OBS	No	81.993201	175.525601	4354.3	6.164	15.0	8.8	2.70	7701	31.84	108.46
004285040-04	OBS	No	79.575131	186.600422	3431.1	4.999	14.4	8.1	2.70	7701	28.43	112.88
004285040-05	OBS	No	119.291949	197.174239	428.1	6.000	10.8	-1.0	2.70	7701	5.67	65.79
004285040-06	OBS	No	101.733249	181.215102	4671.8	7.879	13.1	9.1	2.70	7701	32.90	81.35
004285040-07	OBS	No	1.960053	131.626784	439.7	4.500	11.9	-1.0	2.70	7701	5.74	15750.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004285040-01	OBS	FP	0.00	1	0	0	0	LPP_DV
004285040-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV
004285040-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES
004285040-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT
004285040-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS— HALO_GHOST
004285040-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
004285040-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—CENT_NOFITS

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

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

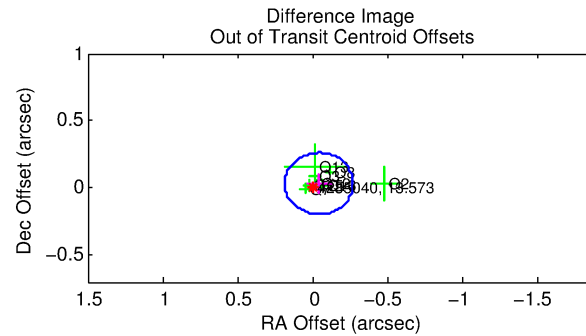
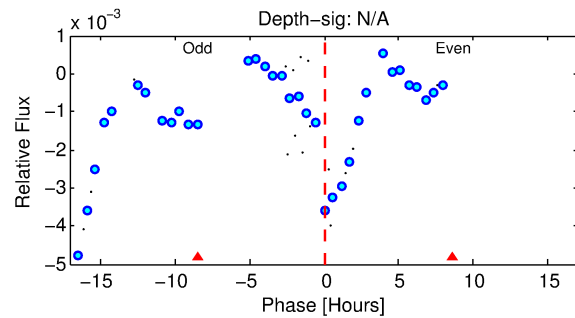
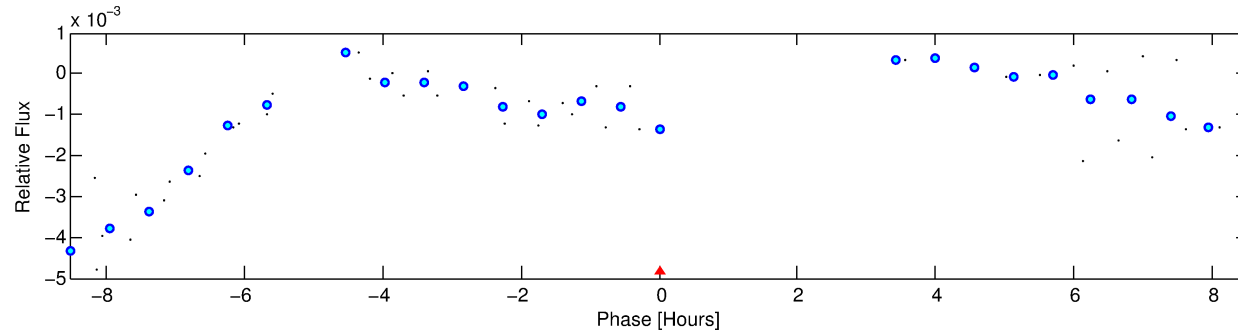
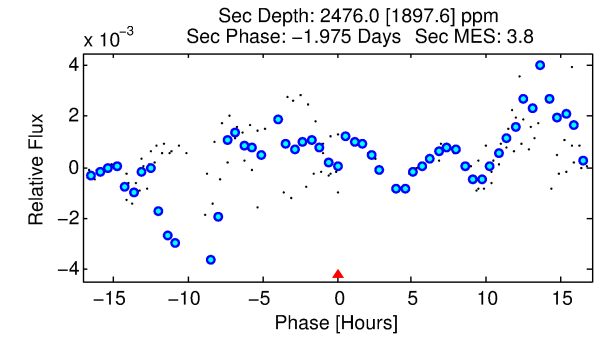
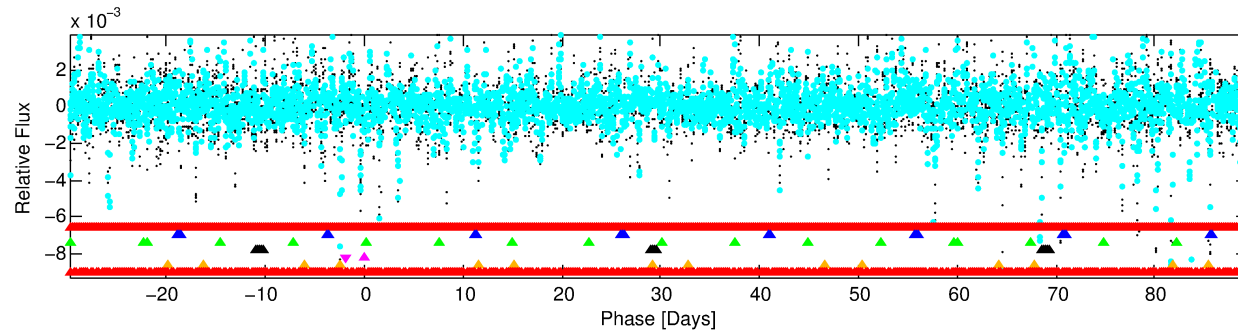
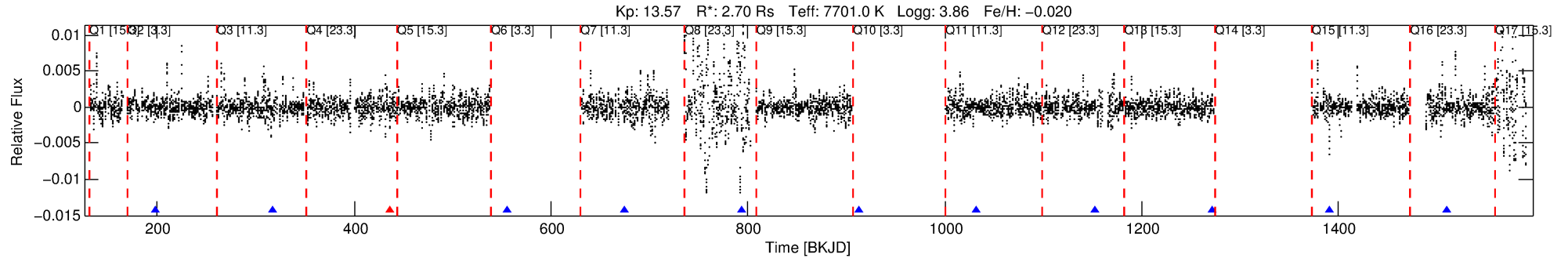
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004285040-05

No Significant Match Found

DV One-Page Summary

KIC: 4285040 Candidate: 5 of 7 Period: 119.292 d



TPS TCE Results:

Period = 119.29195 d
Epoch = 197.1742 BKJD

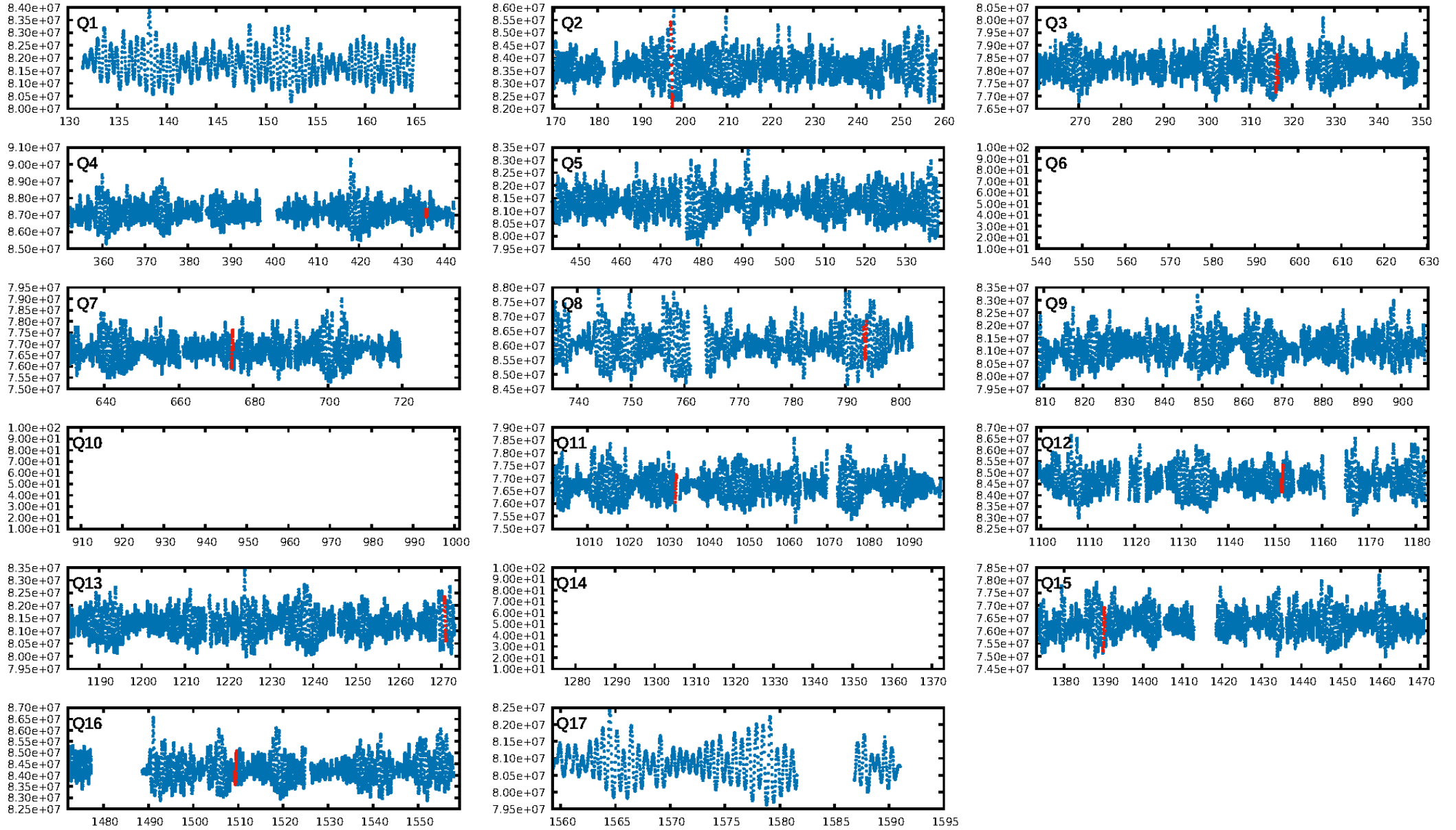
DV fit results are unavailable

DV Diagnostic Results:

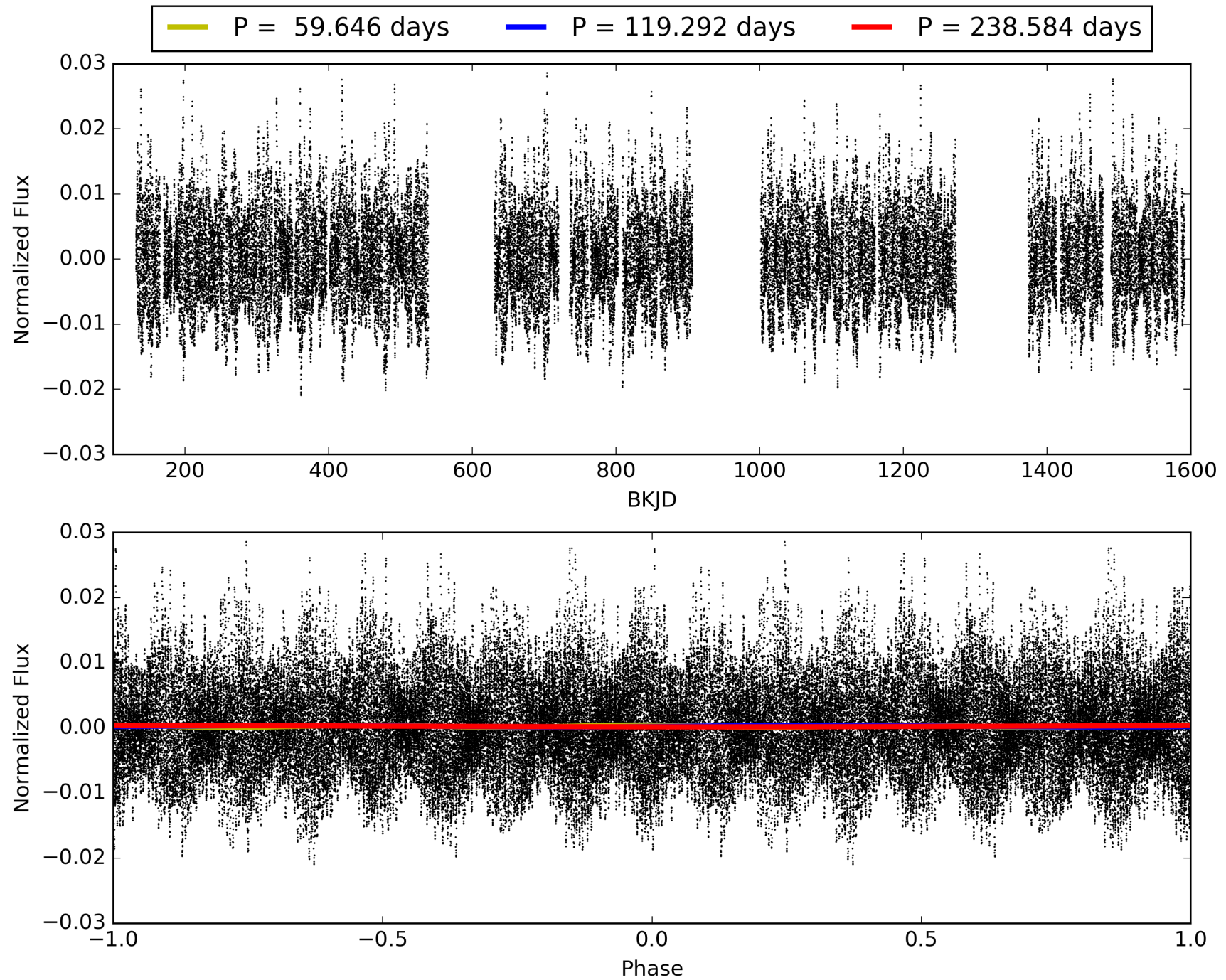
ShortPeriod-sig: 100.0% [42.55σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.50 [1/2]
GhostDiagnostic-chr: 0.0005276

Centroid-sig: 20.7%
Centroid-so: 0.281 arcsec [1.45σ]
OotOffset-rm: 0.055 arcsec [0.72σ]
KicOffset-rm: 0.119 arcsec [1.37σ]
OotOffset-st: 1/3/3/1 [8]
KicOffset-st: 1/3/3/1 [8]
DiffImageQuality-fgm: 0.38 [3/8]
DiffImageOverlap-fno: 0.00 [0/9]

TCE 004285040-05, PDC Light Curves

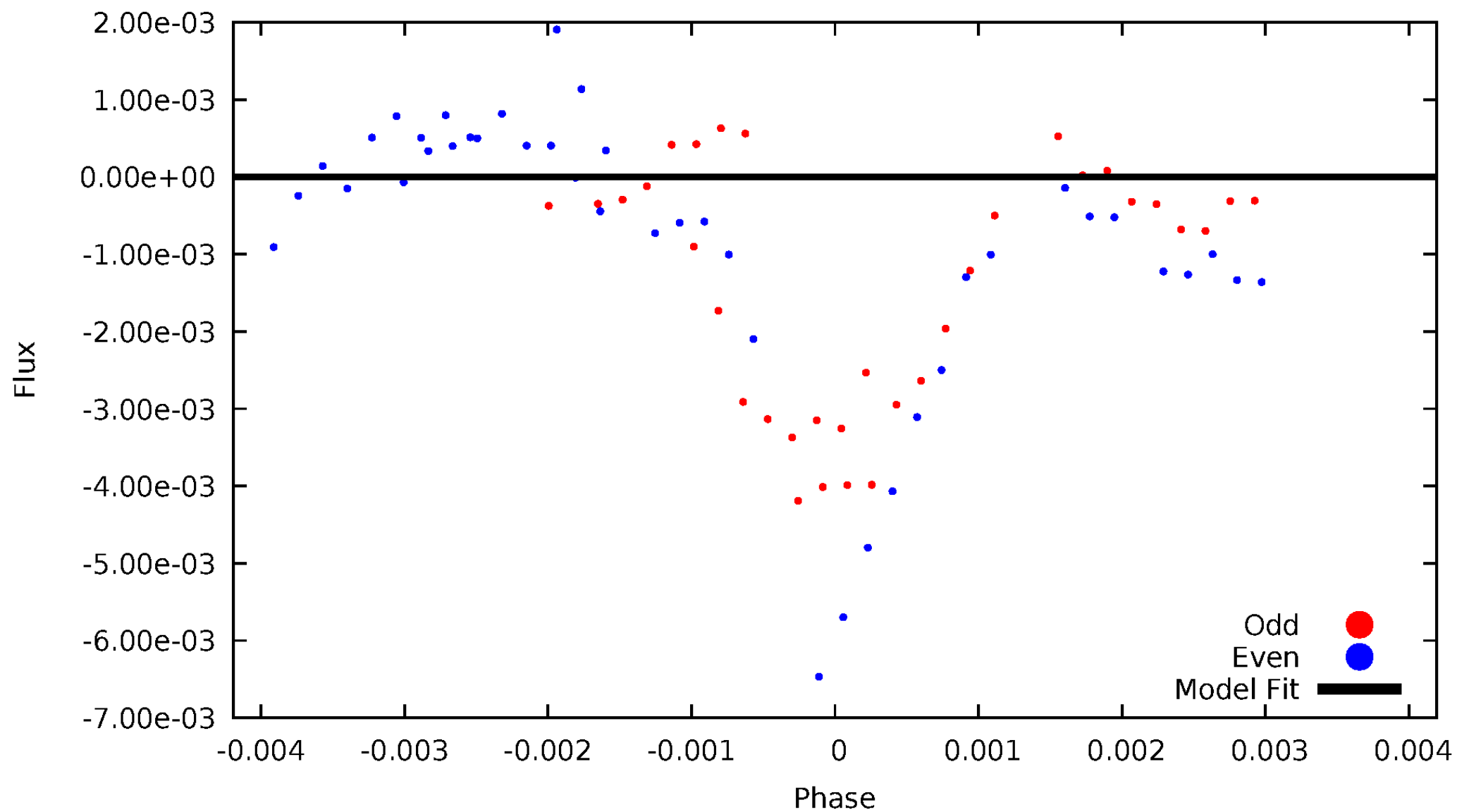


TCE 004285040-05



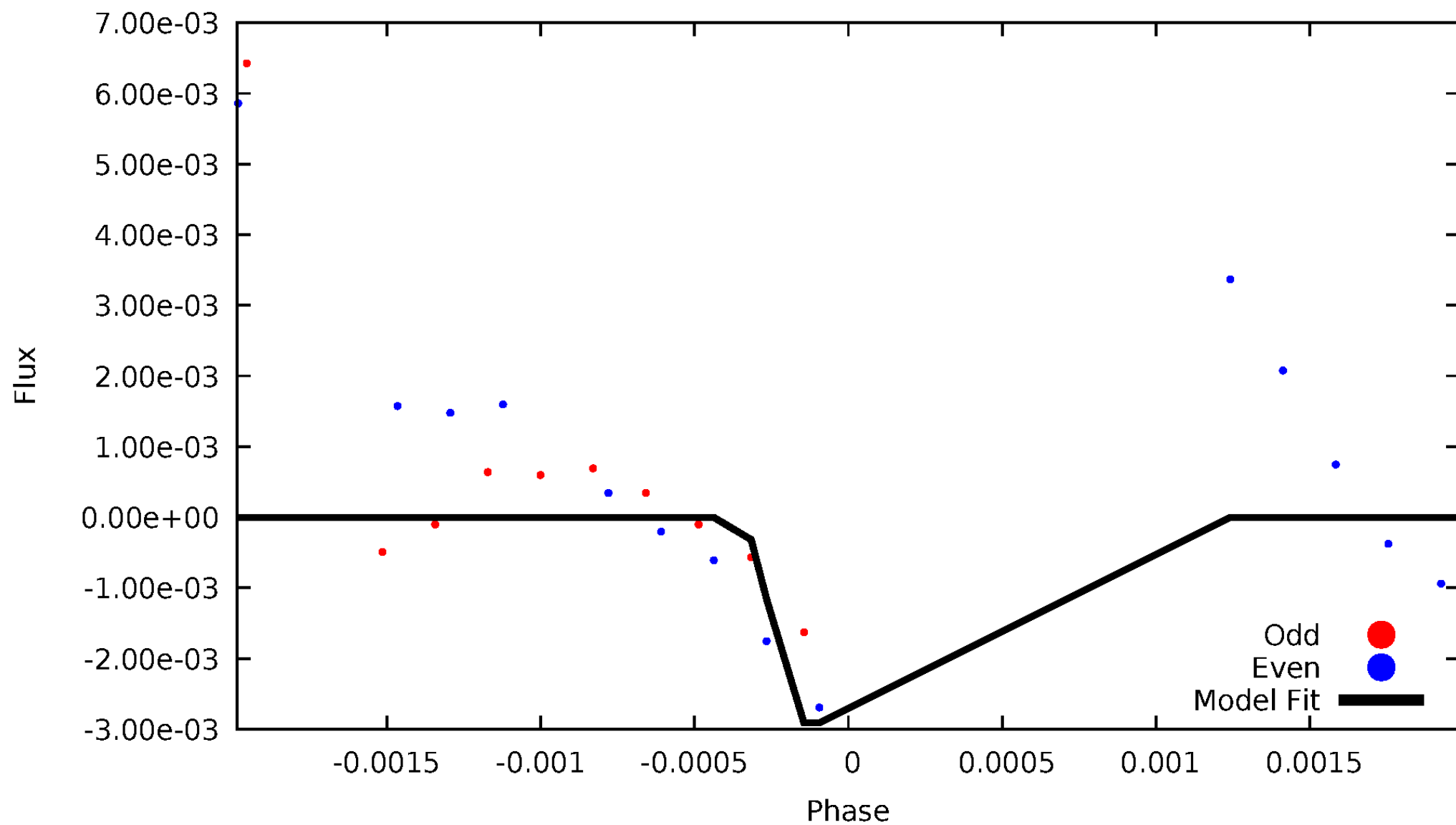
DV Odd/Even

TCE 004285040-05



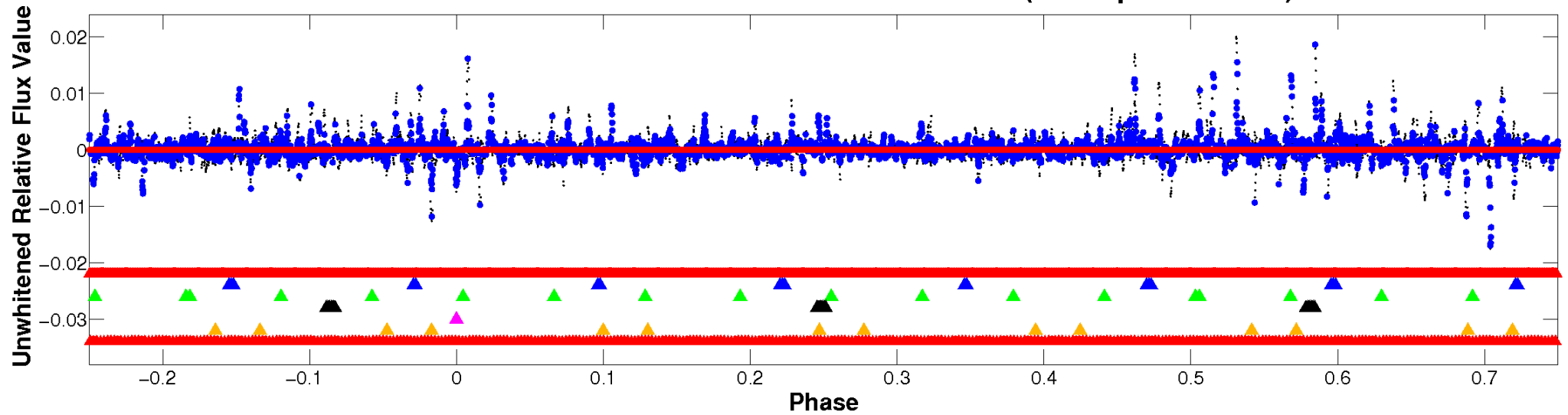
ALT Odd/Even

TCE 004285040-05

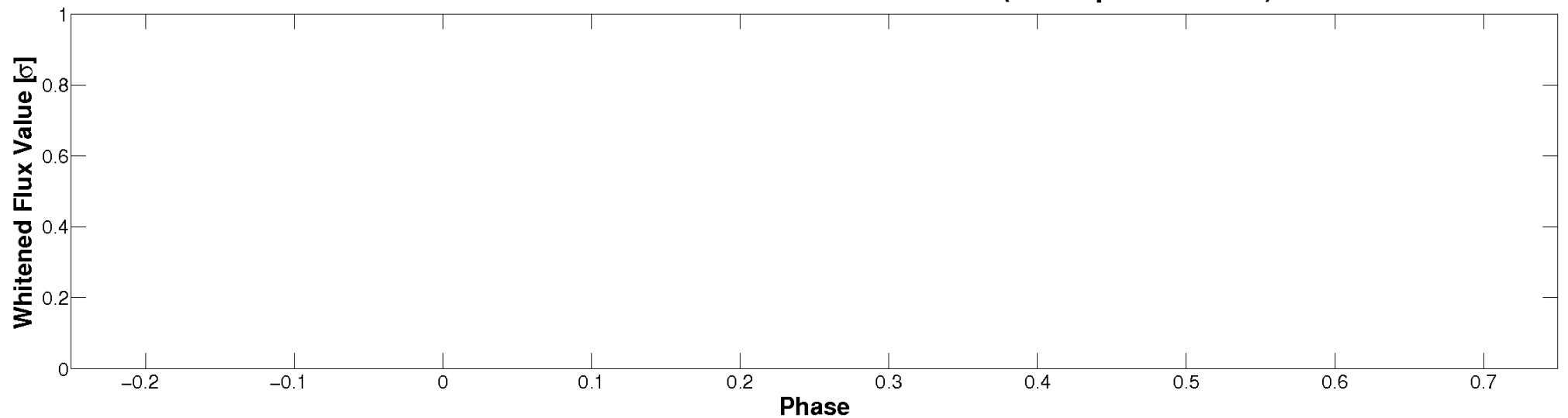


Non-Whitened Vs. Whitened Light Curve

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

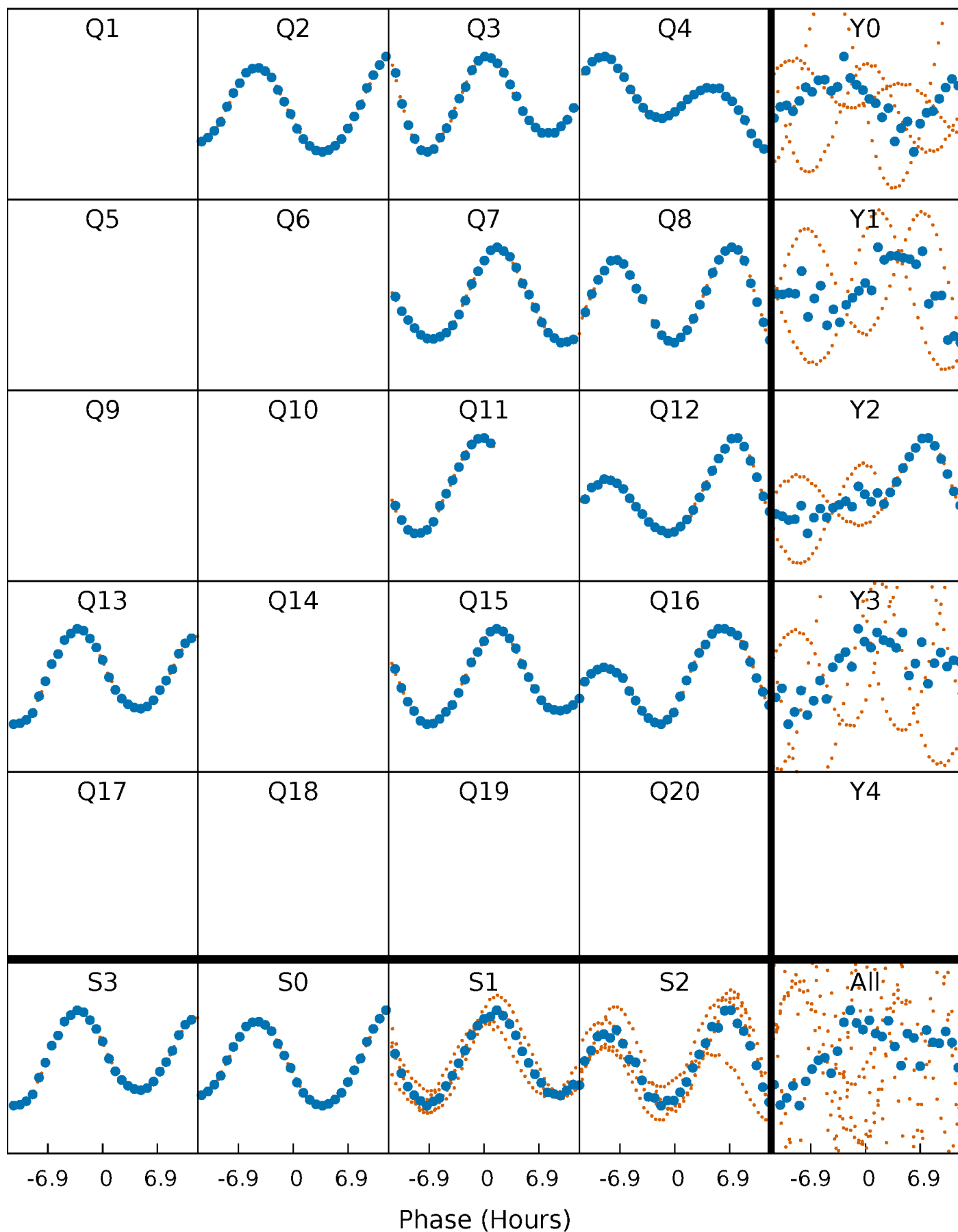


Planet 5 : Phased Whitened Flux Time Series (TPS Epoch/Period)



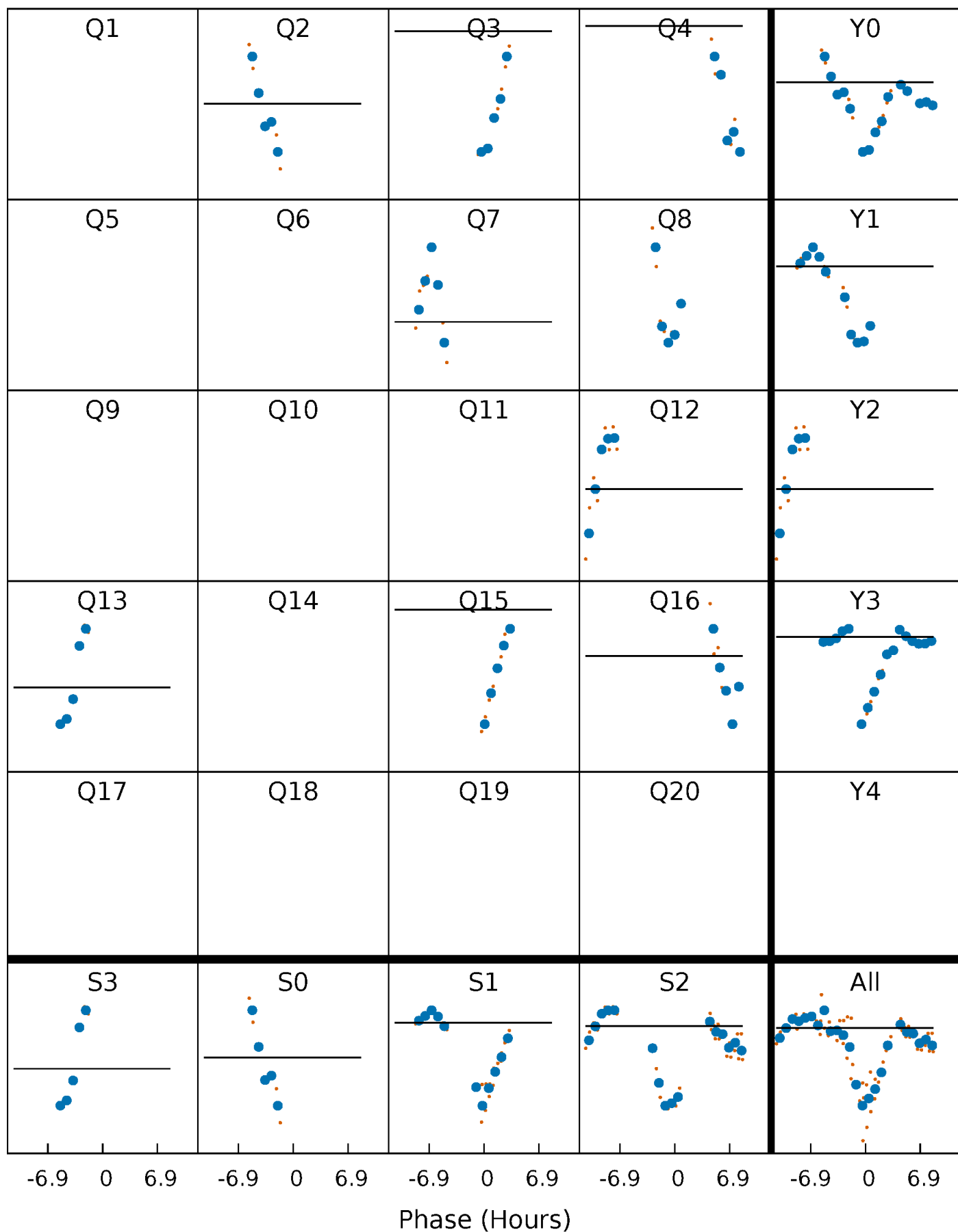
PDC Quarter-Phased Transit Curves

TCE 004285040-05 $P=119.291949$ Days $T_0=197.174239$ (BKJD)



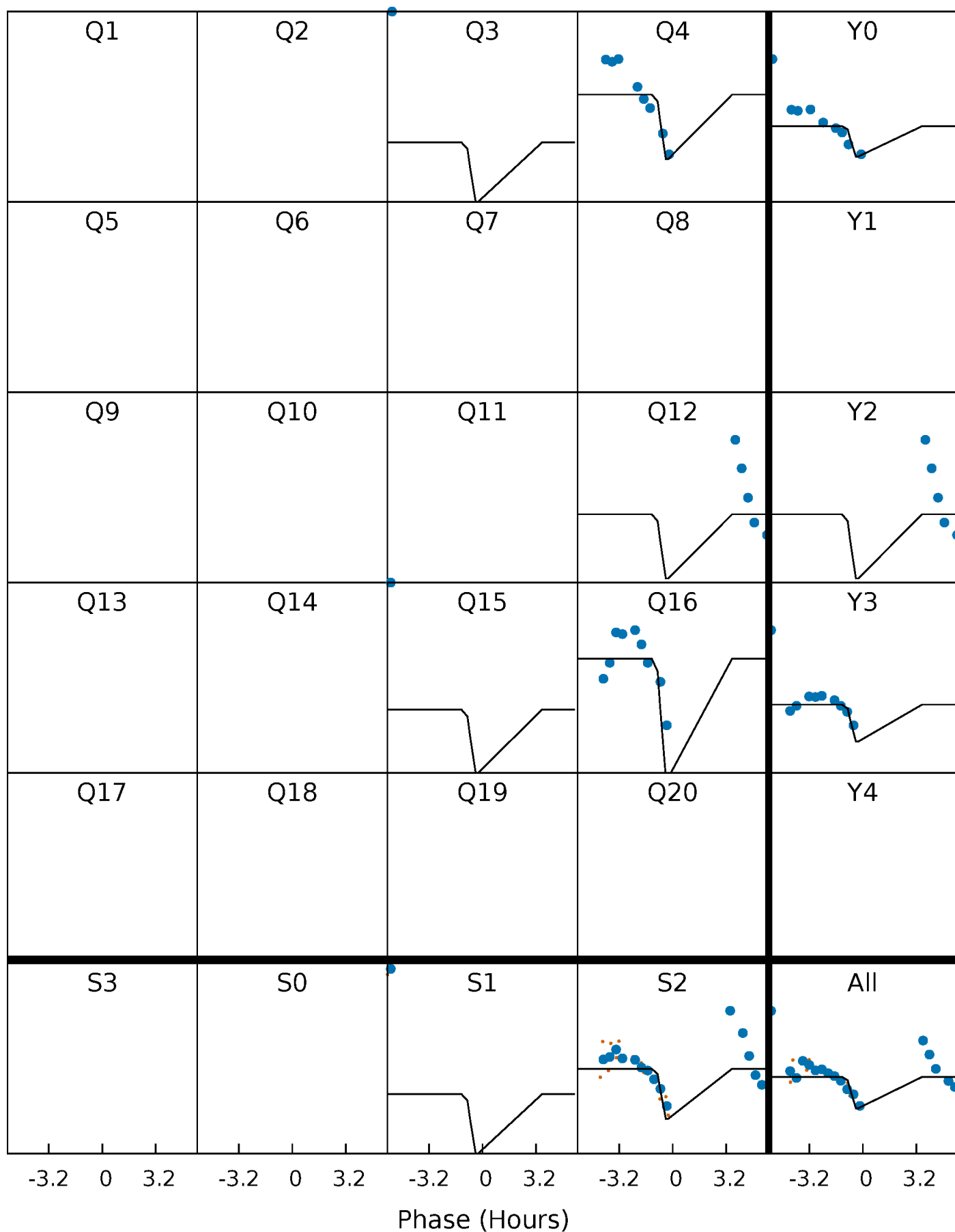
DV Quarter-Phased Transit Curves

TCE 004285040-05 $P=119.291949$ Days $T_0=197.174239$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

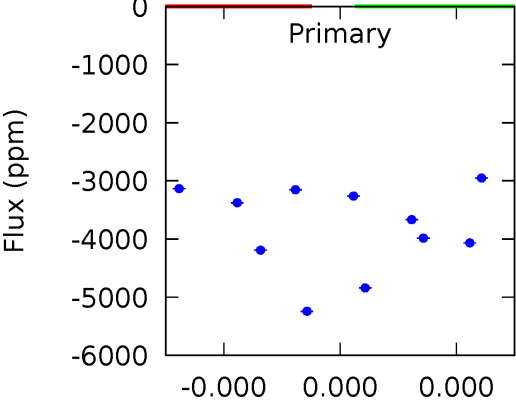
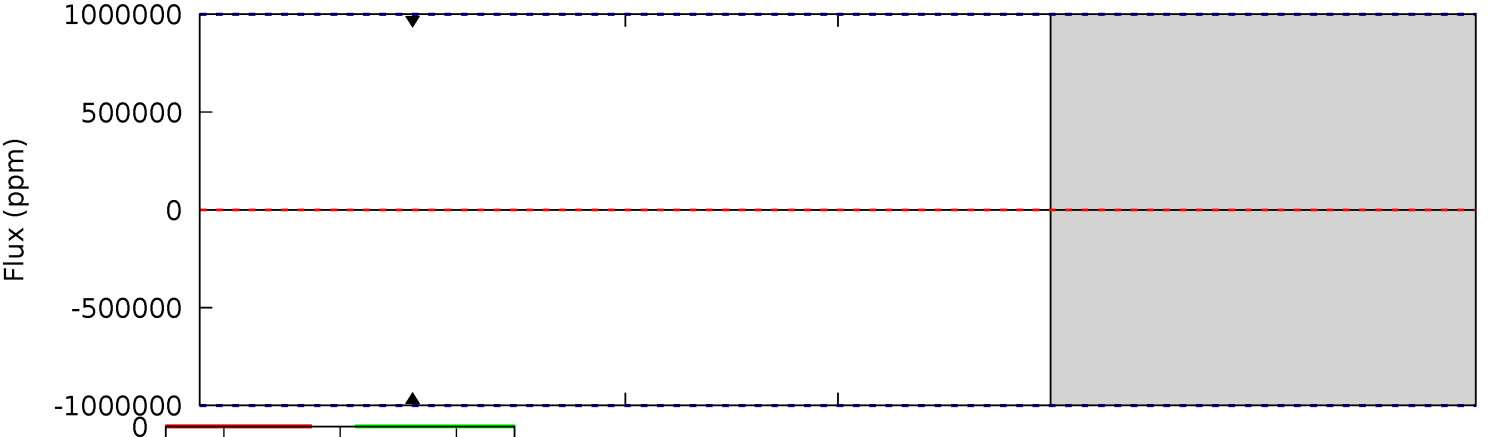
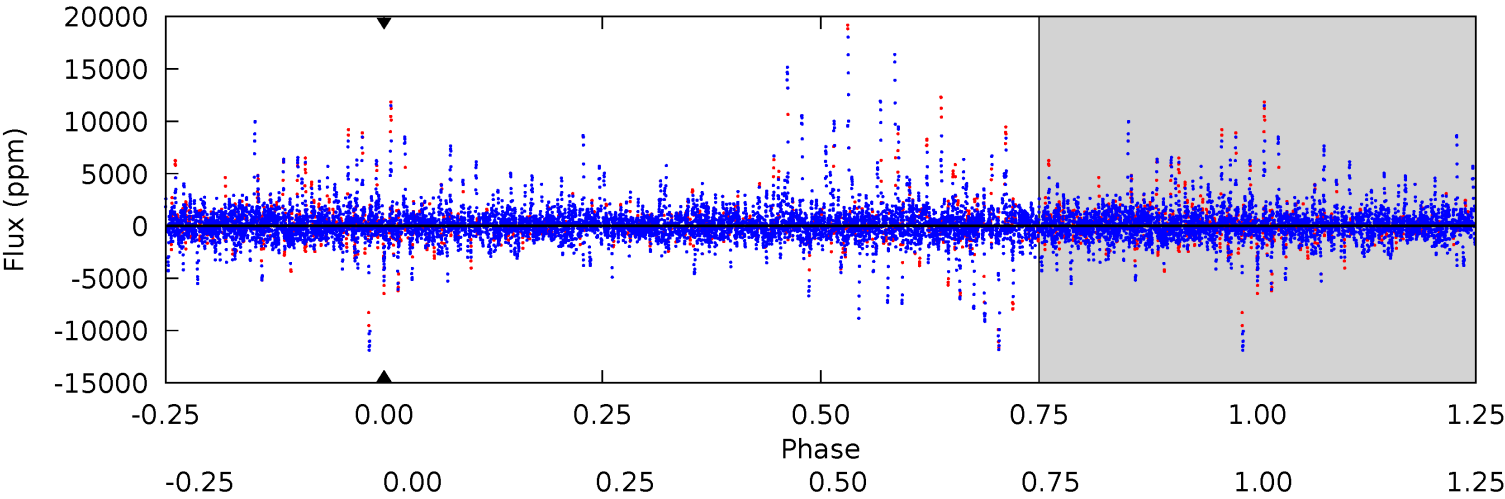
TCE 004285040-05 P=119.291949 Days $T_0=197.540349$ (BKJD)



DV Model-Shift Uniqueness Test

004285040-05, P = 119.291949 Days, E = 77.882290 Days

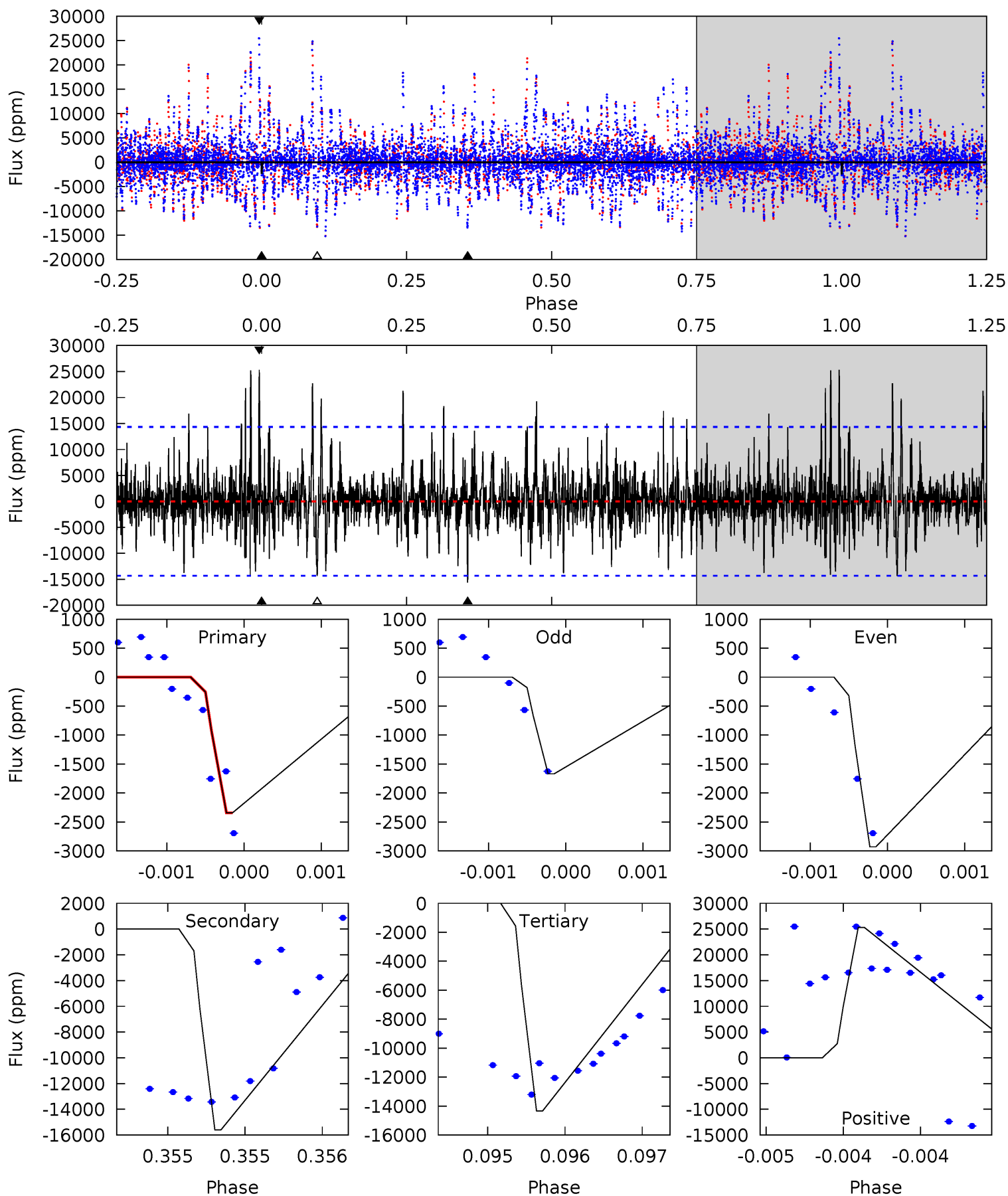
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

004285040-05, P = 119.291949 Days, E = 78.248400 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.91	6.03	5.54	9.79	5.53	3.42	1.64	-4.64	-8.88	0.49	-3.76	0.22	0	0.62	0



Stellar Parameters For KIC 004285040

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7701^{+214}_{-322}	$3.862^{+0.308}_{-0.103}$	$-0.020^{+0.200}_{-0.350}$	$2.703^{+0.436}_{-1.017}$	$1.939^{+0.110}_{-0.467}$	$0.138^{+0.289}_{-0.046}$
	+3%/-4%	+8%/-3%	+1000%/-1750%	+16%/-38%	+6%/-24%	+209%/-34%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004285040-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$20.81^{+21.27}_{-14.30}$	993^{+63}_{-94}	6434^{+34464}_{-44178}	1094^{+77854}_{-65294}
Alt.	-15596 ± 2586	$24.58^{+23.86}_{-16.18}$	990^{+71}_{-95}	9208^{+15760}_{-2916}	4837^{+37237}_{-3638}

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

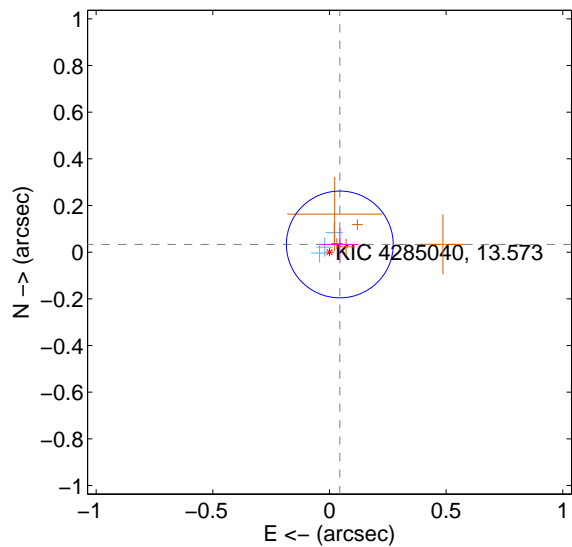
Supplemental centroid analysis for 004285040-05. Kepler magnitude: 13.57. Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

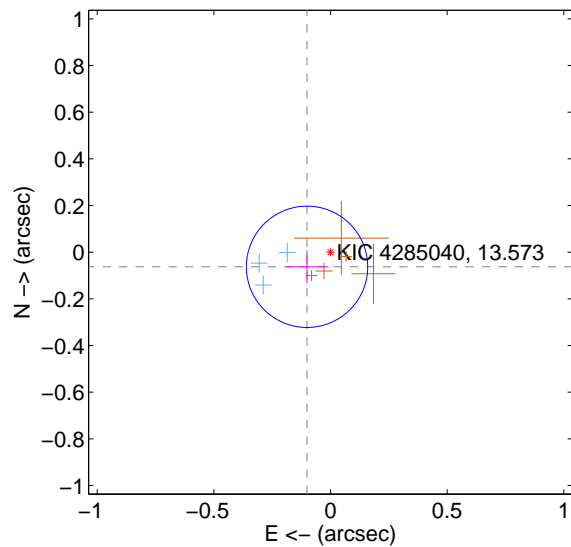
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.055 ± 0.076	0.72	-0.044 ± 0.081	0.033 ± 0.070
PRF-fit source offset from KIC position	0.119 ± 0.087	1.37	0.101 ± 0.090	-0.063 ± 0.070
photometric centroid source offset	0.28 ± 0.19	1.45	0.09 ± 0.21	-0.27 ± 0.19

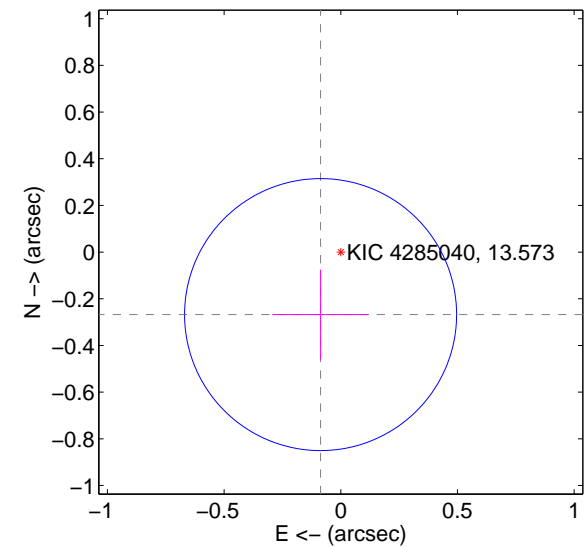
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

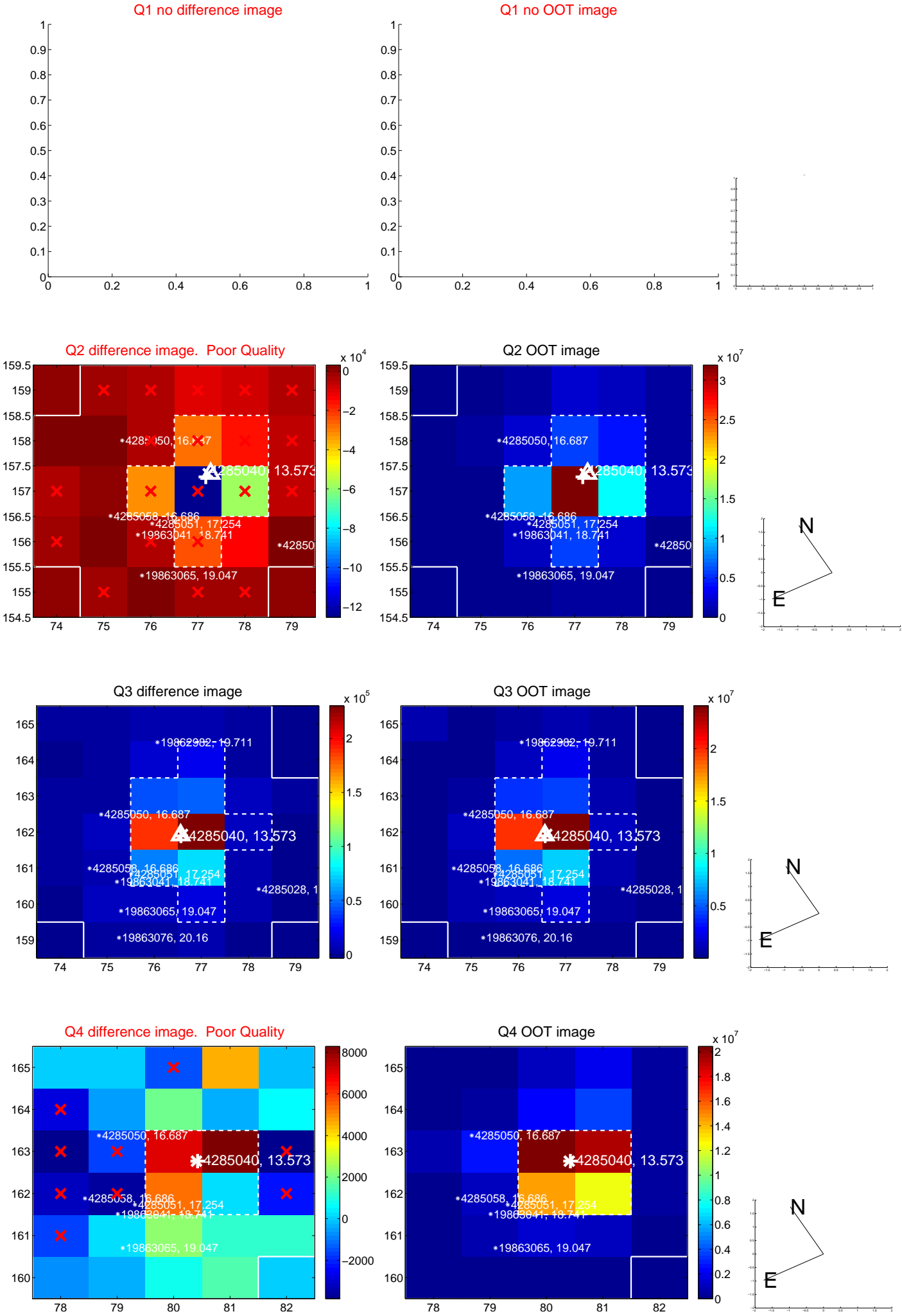


offset from photometric centroids

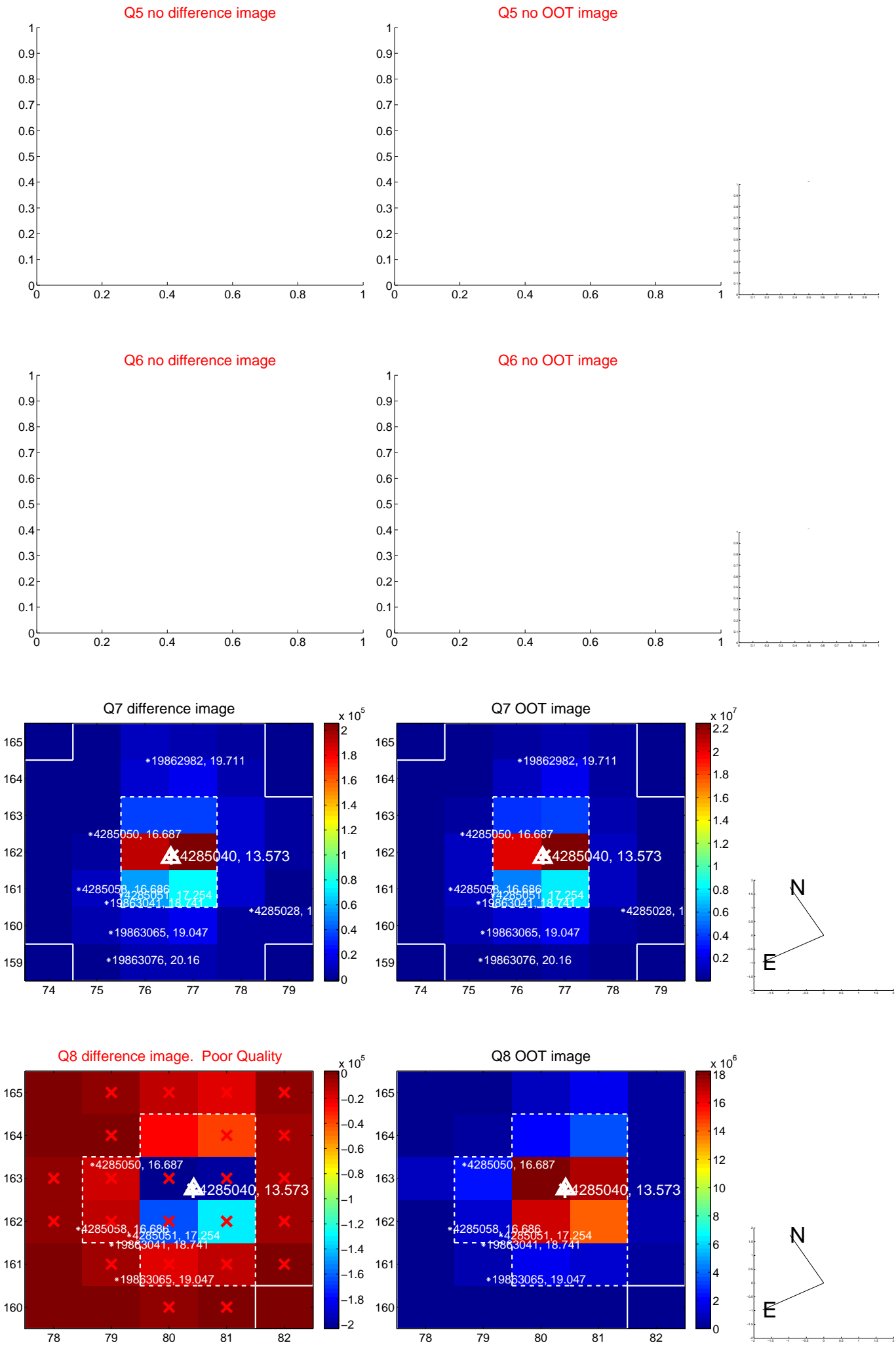


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

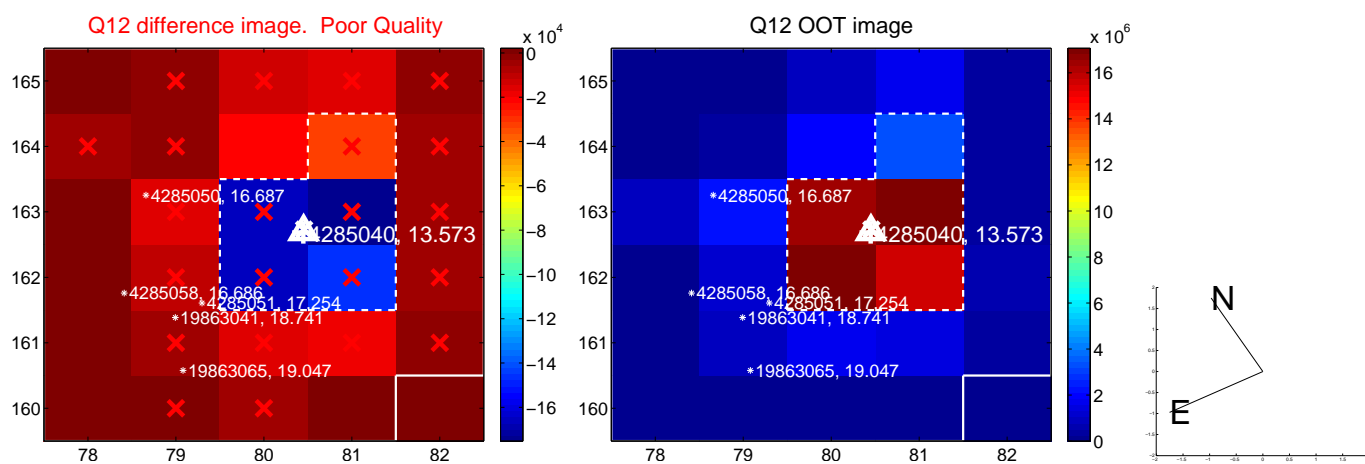
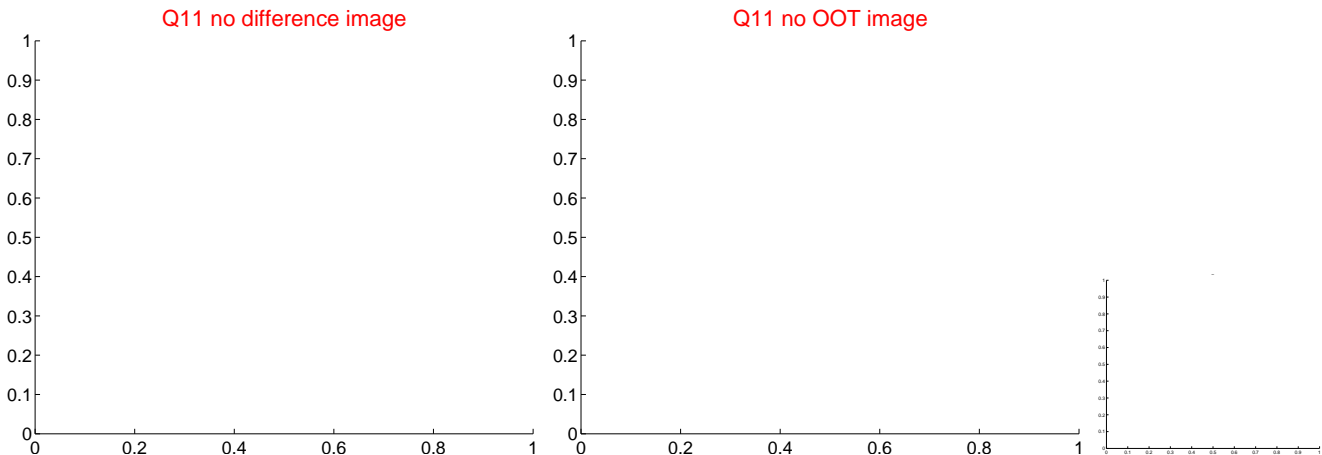
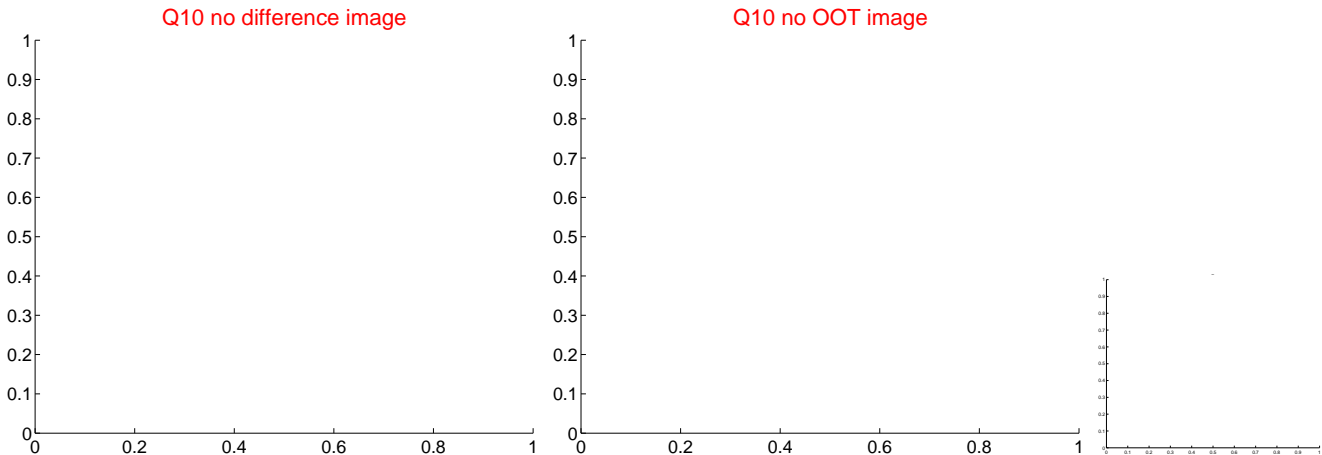
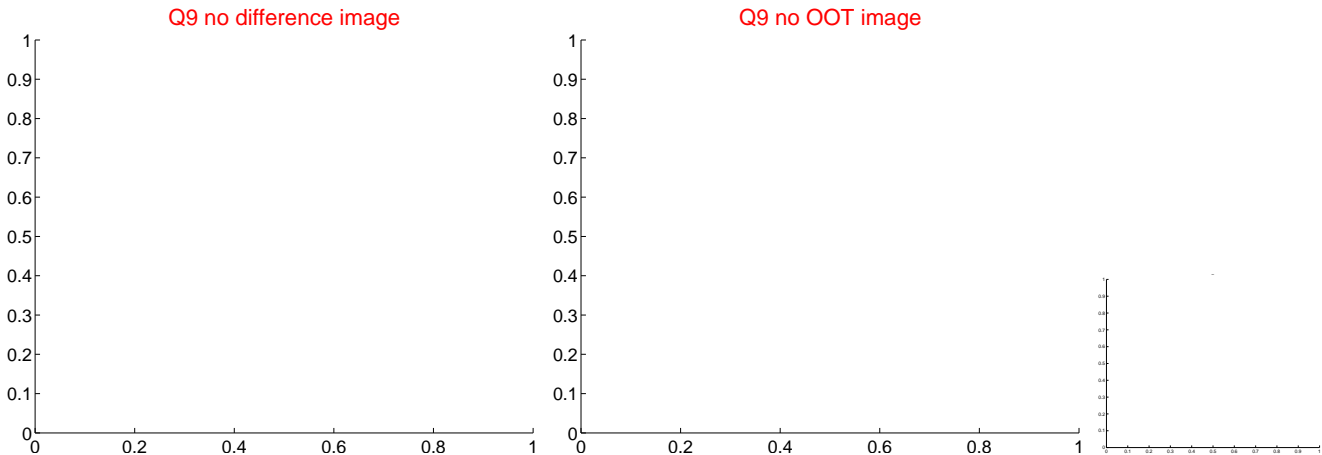
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



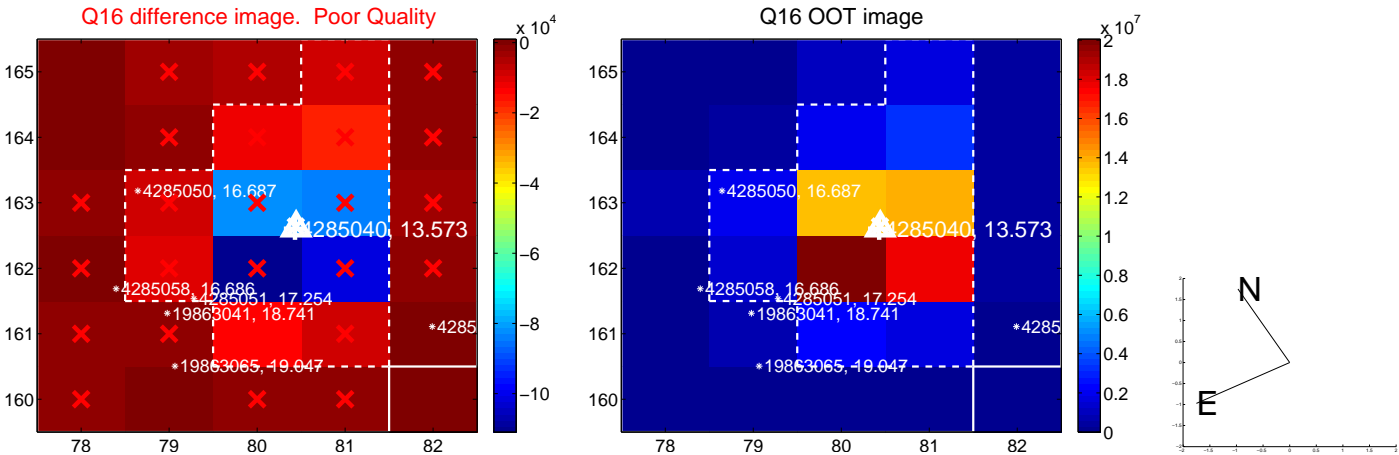
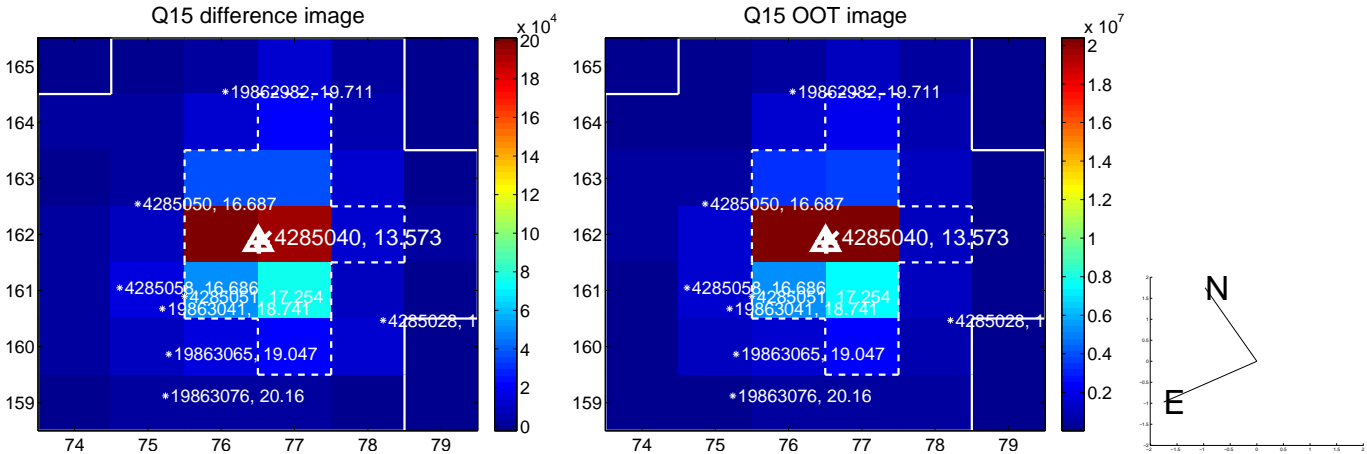
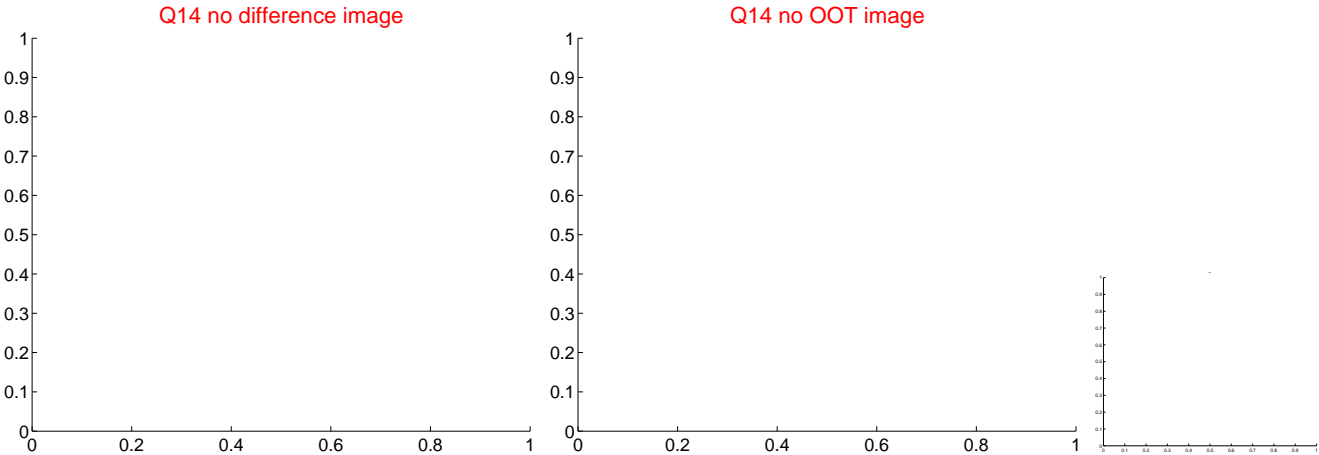
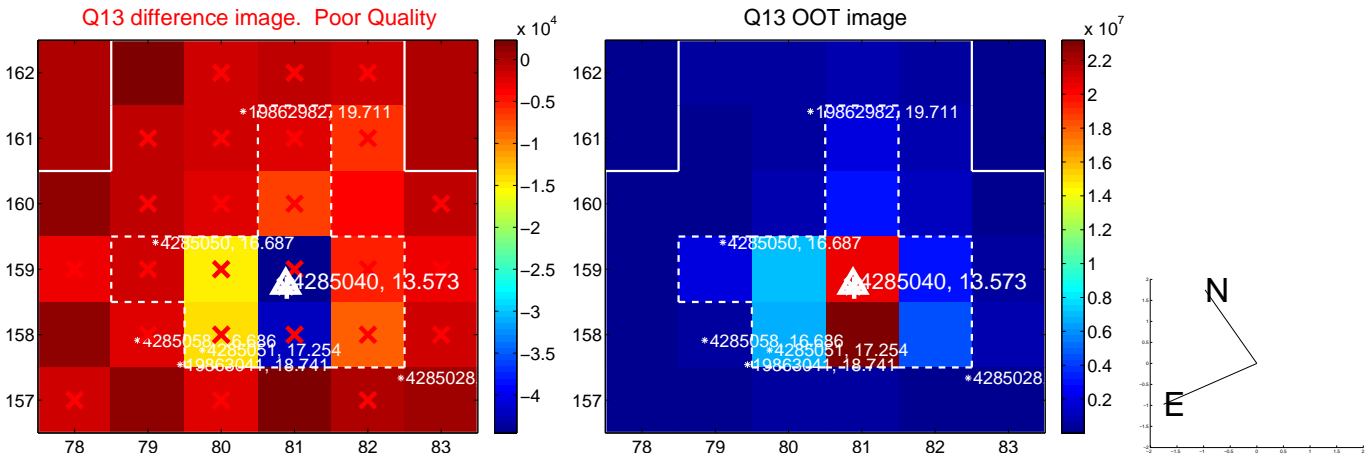
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



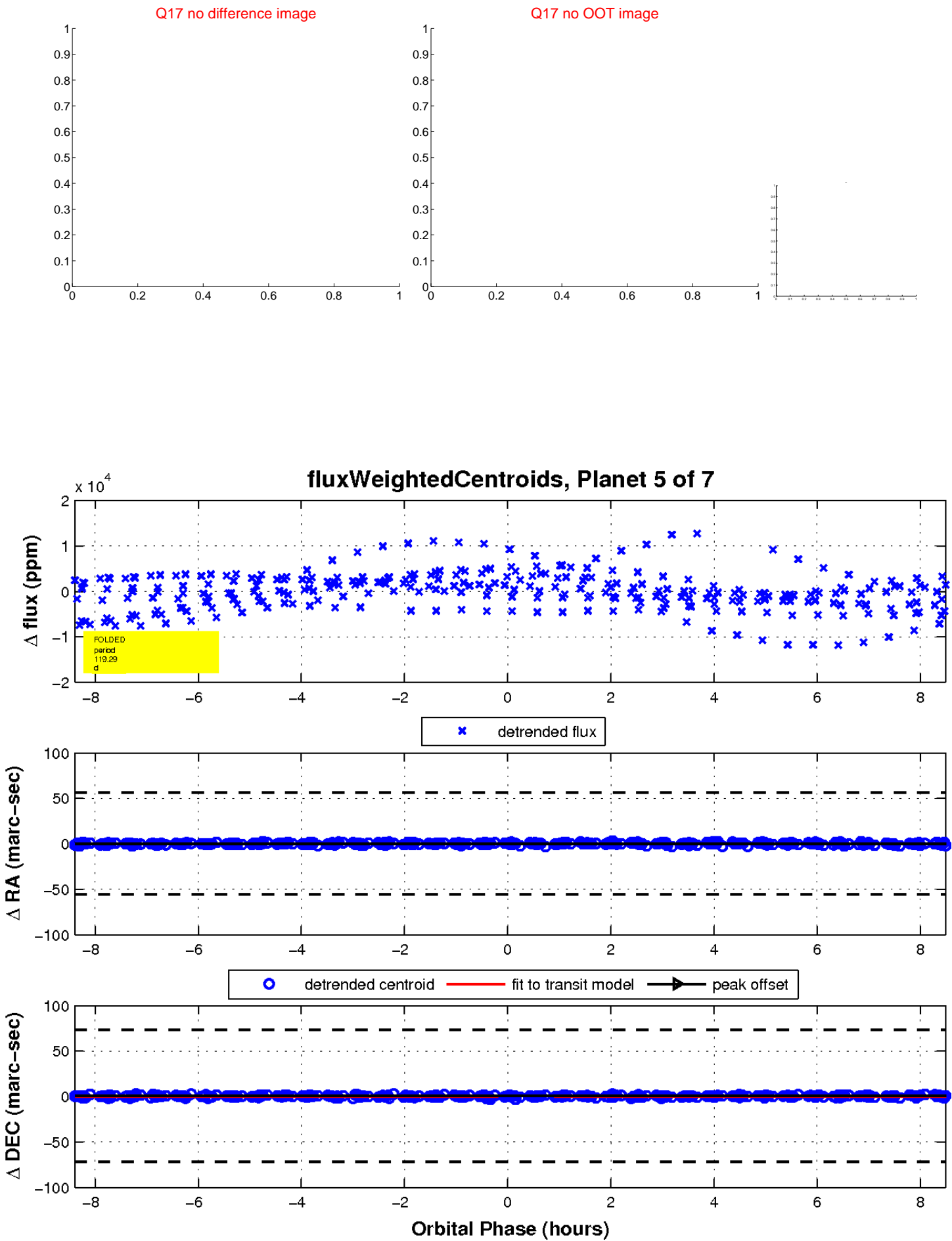
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

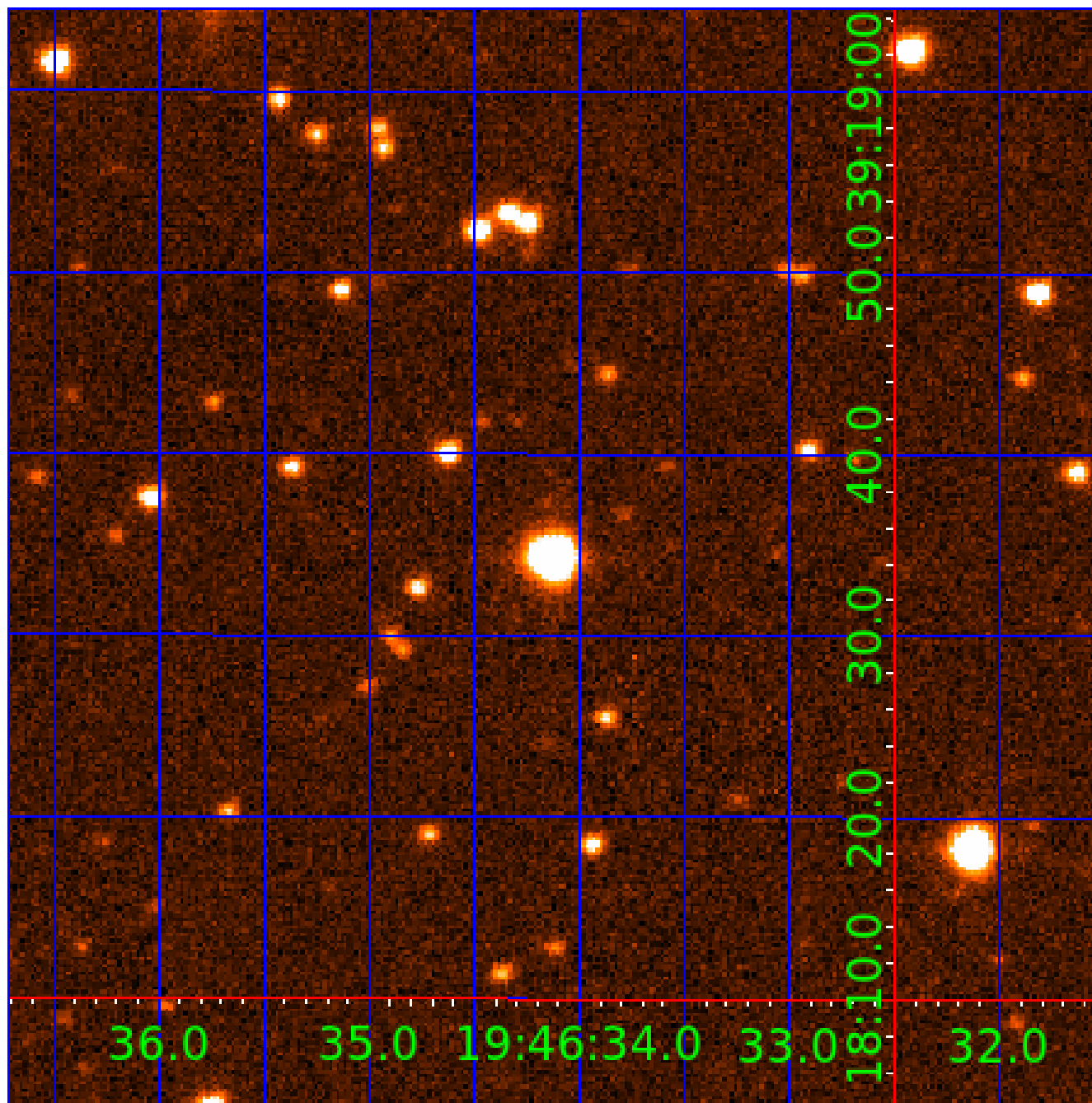


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004285040

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})
004285040-01	OBS	No	0.979586	131.872964	66.5	6.211	8.2	5.8	2.70	7701	2.31	39712.14
004285040-02	OBS	No	74.534187	149.294479	5905.1	7.496	21.0	9.3	2.70	7701	36.77	123.17
004285040-03	OBS	No	81.993201	175.525601	4354.3	6.164	15.0	8.8	2.70	7701	31.84	108.46
004285040-04	OBS	No	79.575131	186.600422	3431.1	4.999	14.4	8.1	2.70	7701	28.43	112.88
004285040-05	OBS	No	119.291949	197.174239	428.1	6.000	10.8	-1.0	2.70	7701	5.67	65.79
004285040-06	OBS	No	101.733249	181.215102	4671.8	7.879	13.1	9.1	2.70	7701	32.90	81.35
004285040-07	OBS	No	1.960053	131.626784	439.7	4.500	11.9	-1.0	2.70	7701	5.74	15750.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004285040-01	OBS	FP	0.00	1	0	0	0	LPP_DV
004285040-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV
004285040-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES
004285040-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT
004285040-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST
004285040-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
004285040-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—CENT_NOFITS

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

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

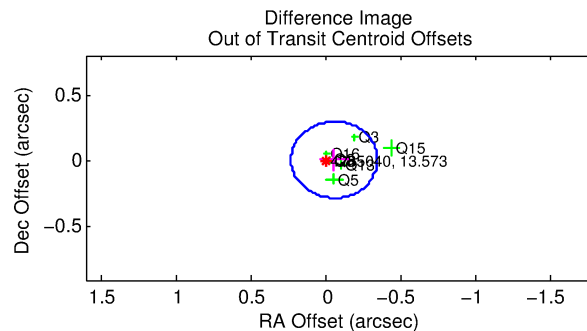
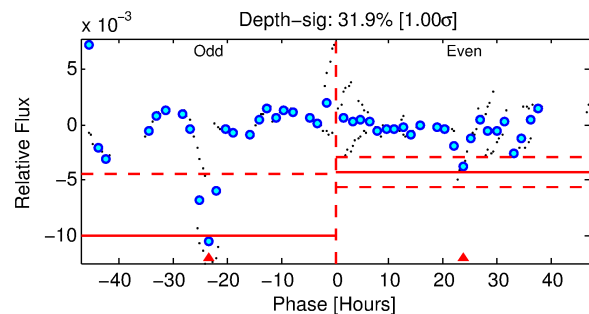
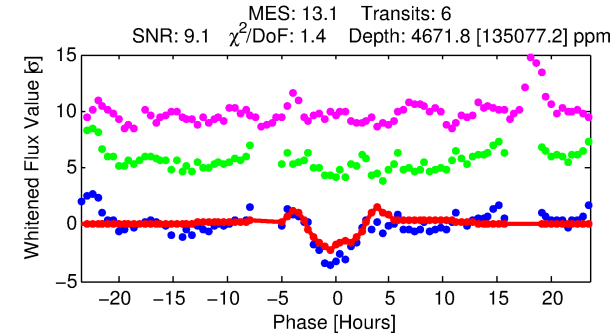
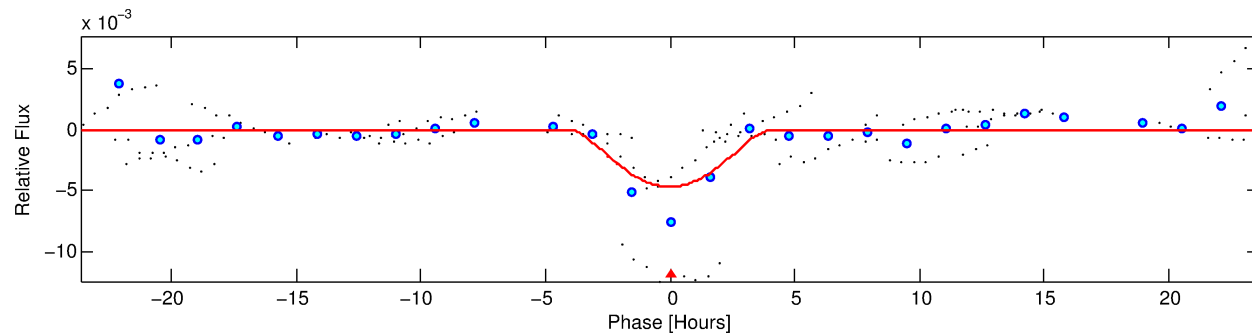
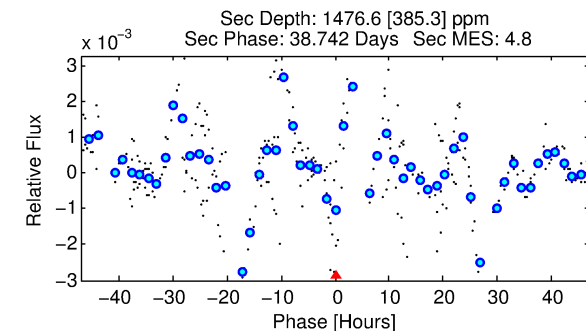
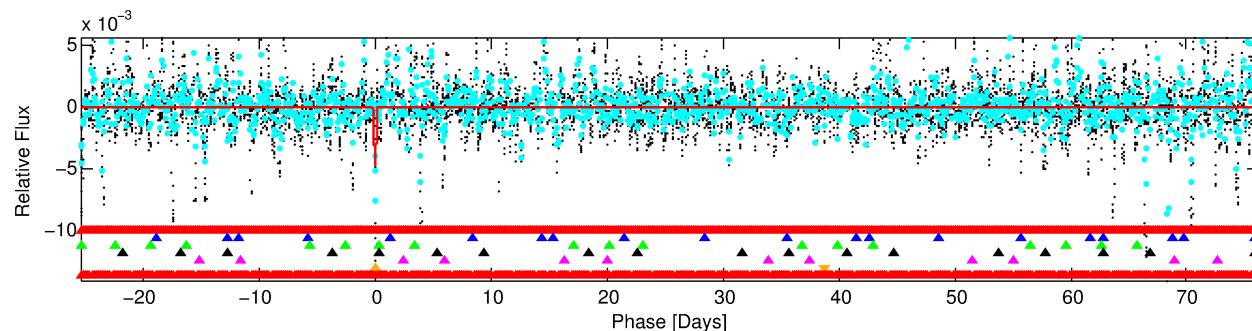
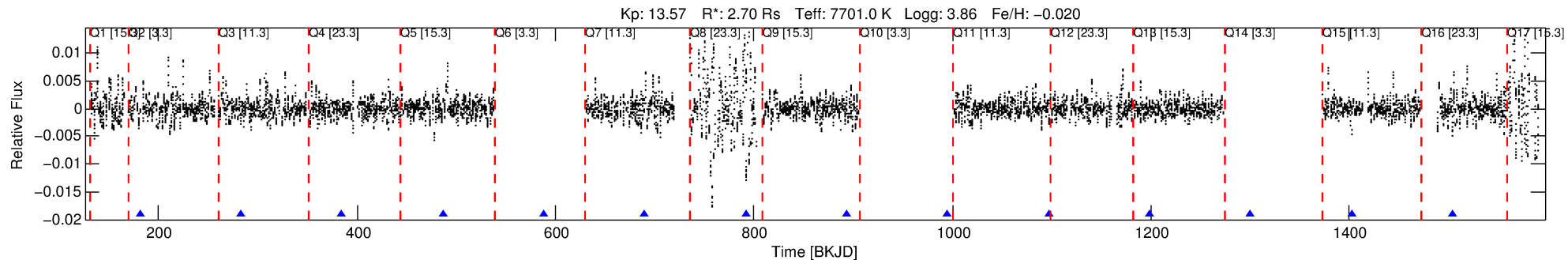
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004285040-06

No Significant Match Found

DV One-Page Summary

KIC: 4285040 Candidate: 6 of 7 Period: 101.733 d



DV Fit Results:

Period = 101.73325 [0.00177] d
Epoch = 181.2151 [0.0140] BKJD
Rp/R* = 0.1116 [0.2673]
a/R* = 47.88 [22.23]
b = 1.00 [2.58]
Seff = 81.35 [45.62]
Teq = 766 [107] K
Rp = 32.90 [79.81] Re
a = 0.5320 [0.1834] AU
Ag = 212.36 [1025.59] [0.21 σ]
Teff = 4520 [5427] K [0.69 σ]

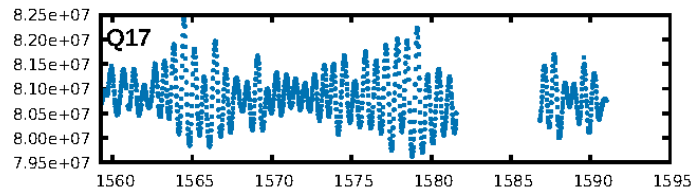
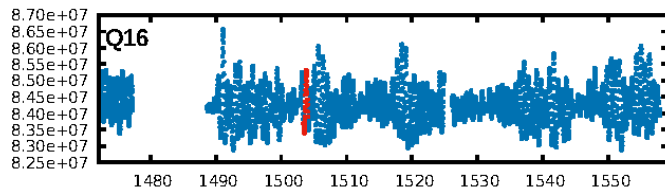
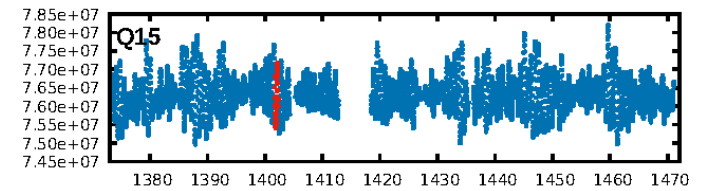
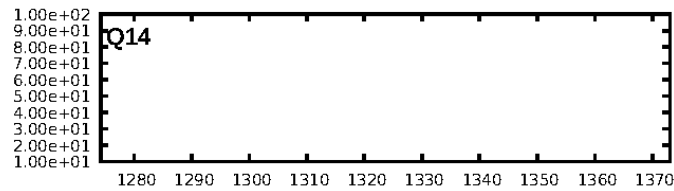
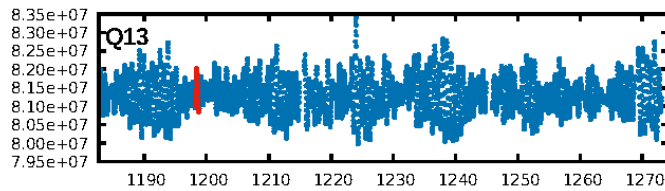
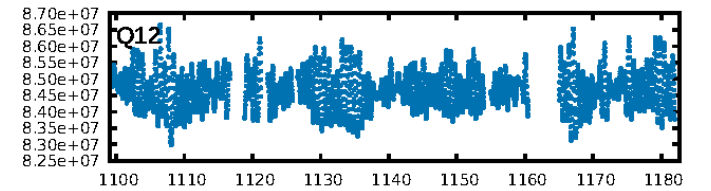
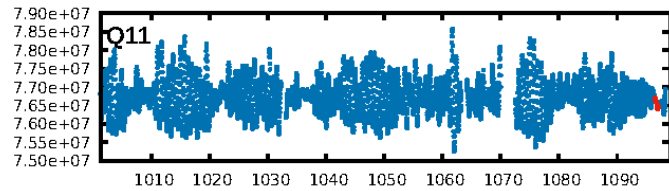
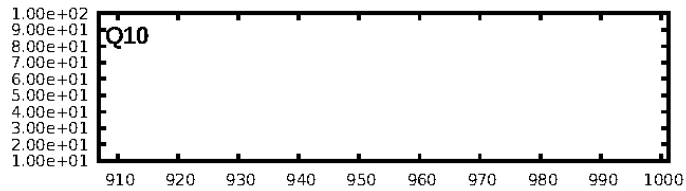
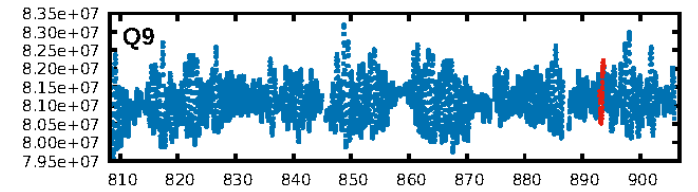
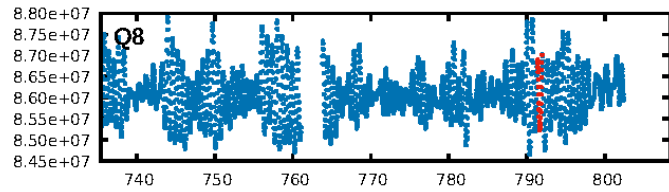
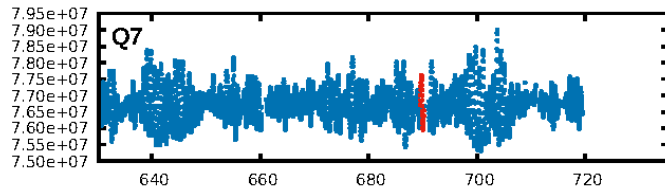
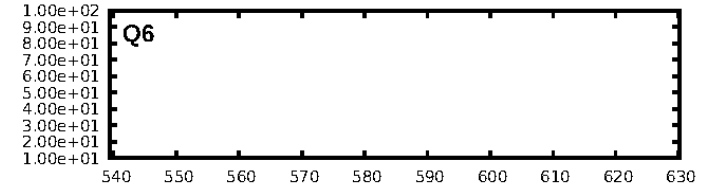
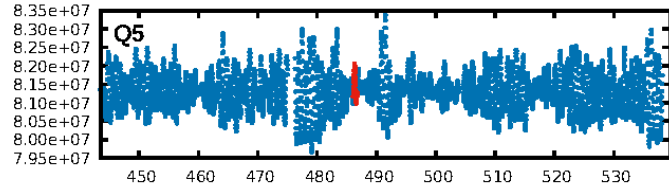
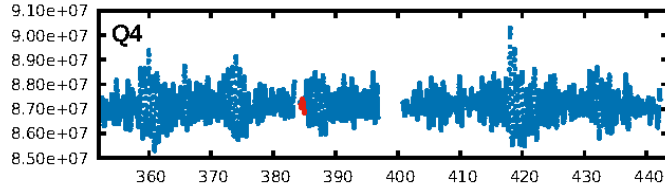
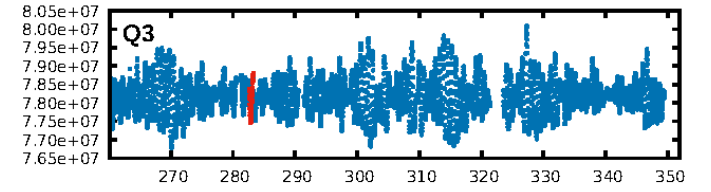
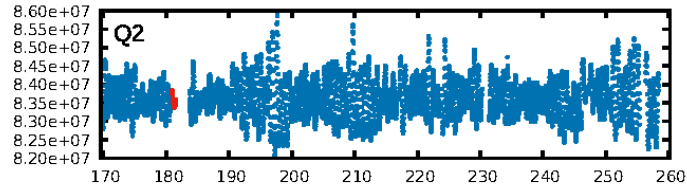
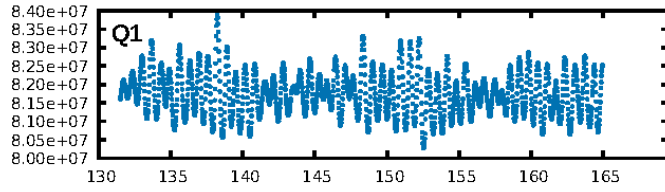
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [47.36 σ]
LongPeriod-sig: 100.0% [42.55 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -0.9417
Centroid-sig: 6.8%
Centroid-so: 0.265 arcsec [2.55 σ]
OotOffset-rm: 0.061 arcsec [0.63 σ]
KicOffset-rm: 0.100 arcsec [1.28 σ]
OotOffset-st: 0/2/2/3 [7]
KicOffset-st: 0/2/2/3 [7]
DiffImageQuality-fgm: 0.57 [4/7]
DiffImageOverlap-fno: 0.00 [0/7]

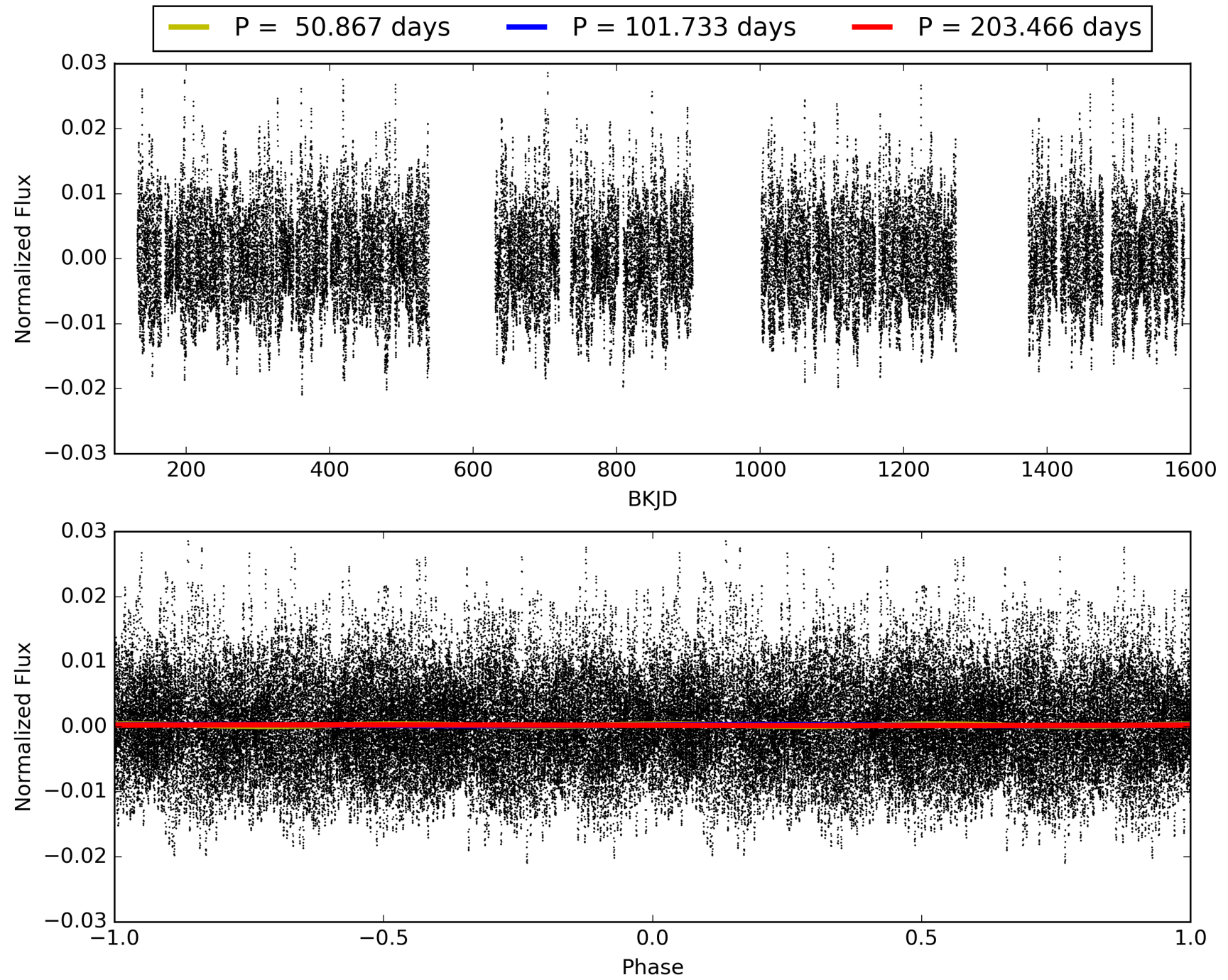
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:45:28 Z

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

TCE 004285040-06, PDC Light Curves

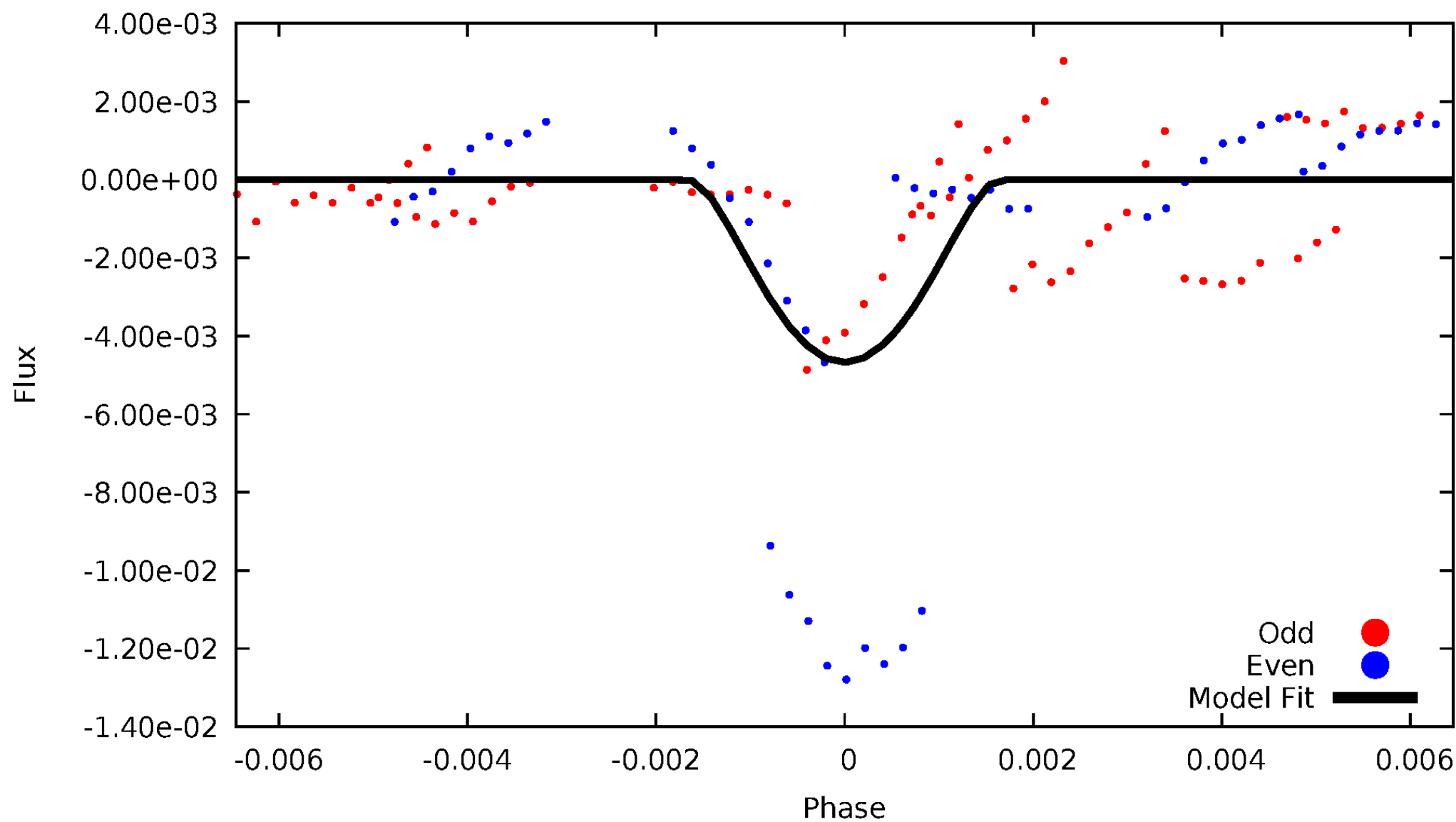


TCE 004285040-06



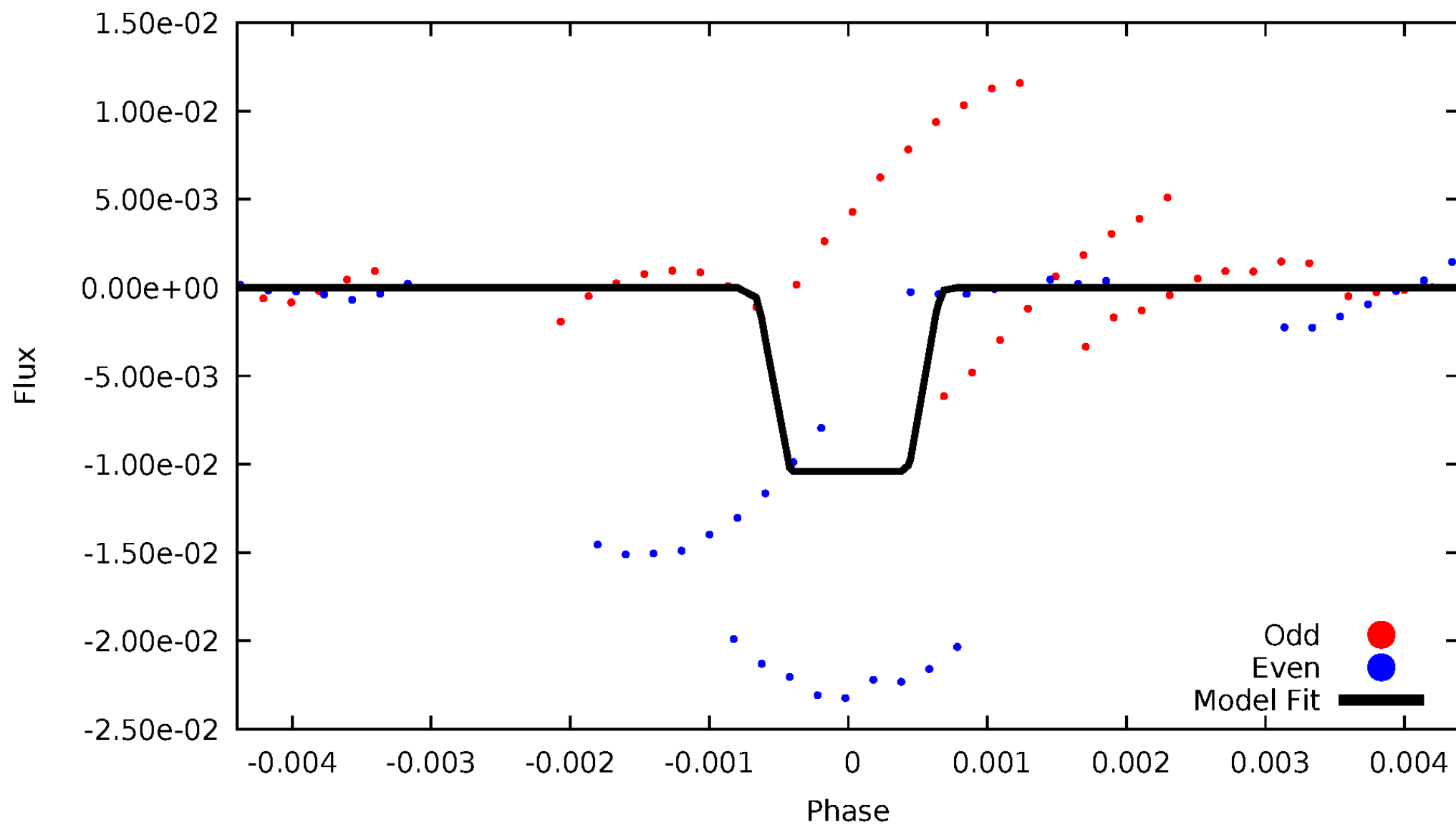
DV Odd/Even

TCE 004285040-06



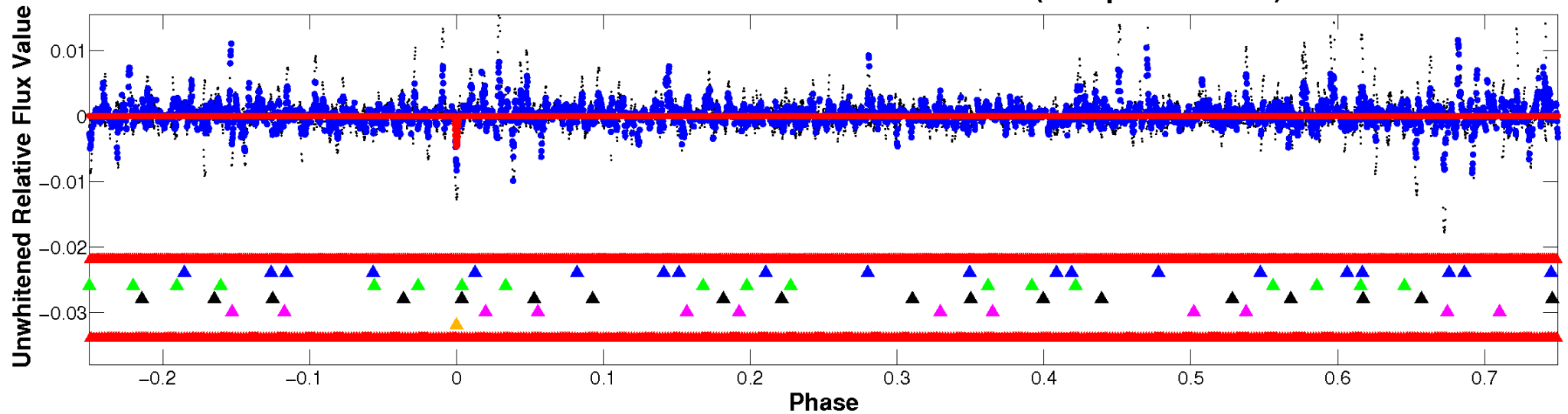
ALT Odd/Even

TCE 004285040-06

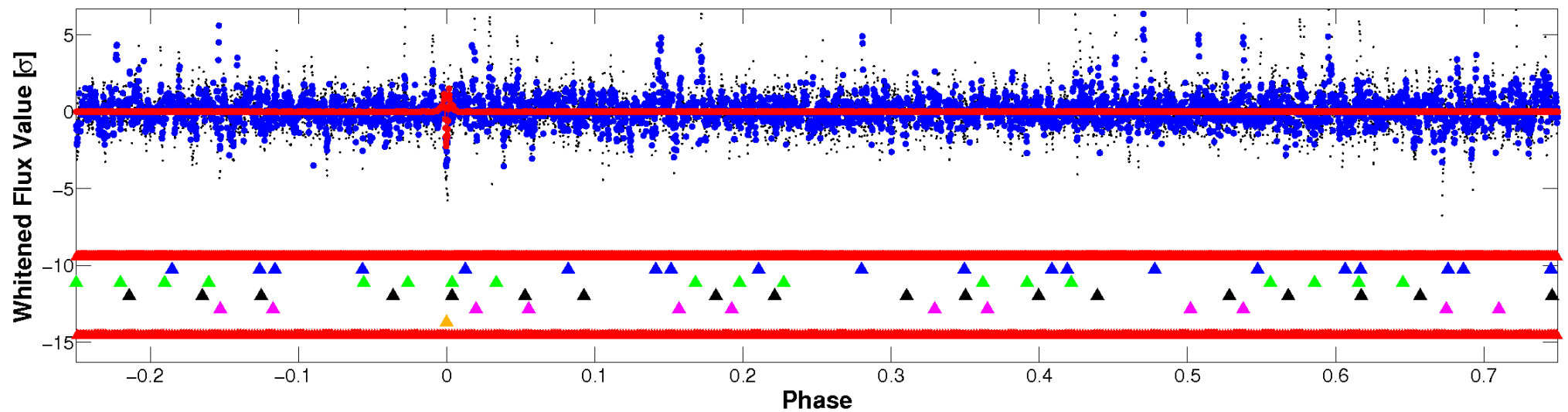


Non-Whitened Vs. Whitened Light Curve

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

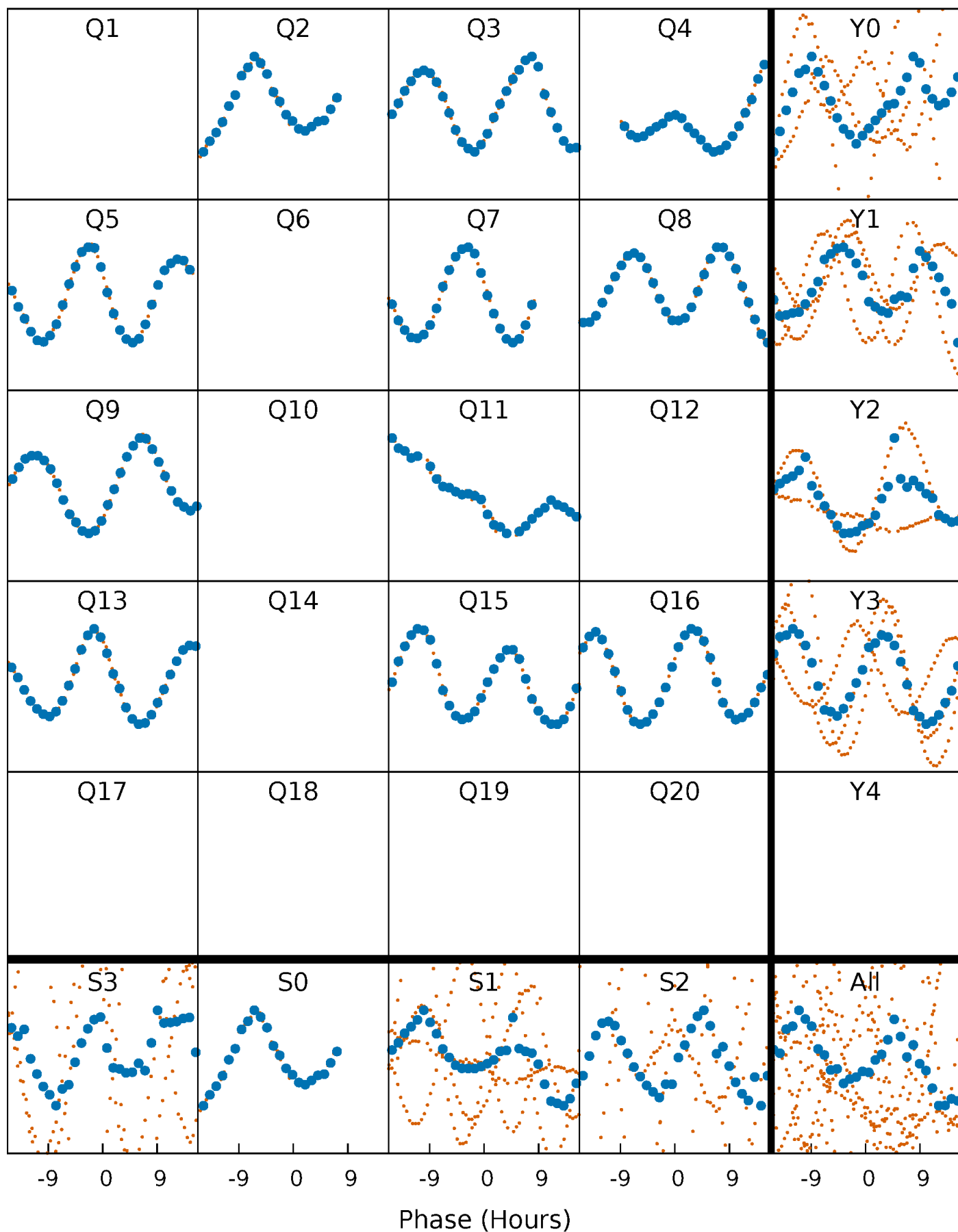


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



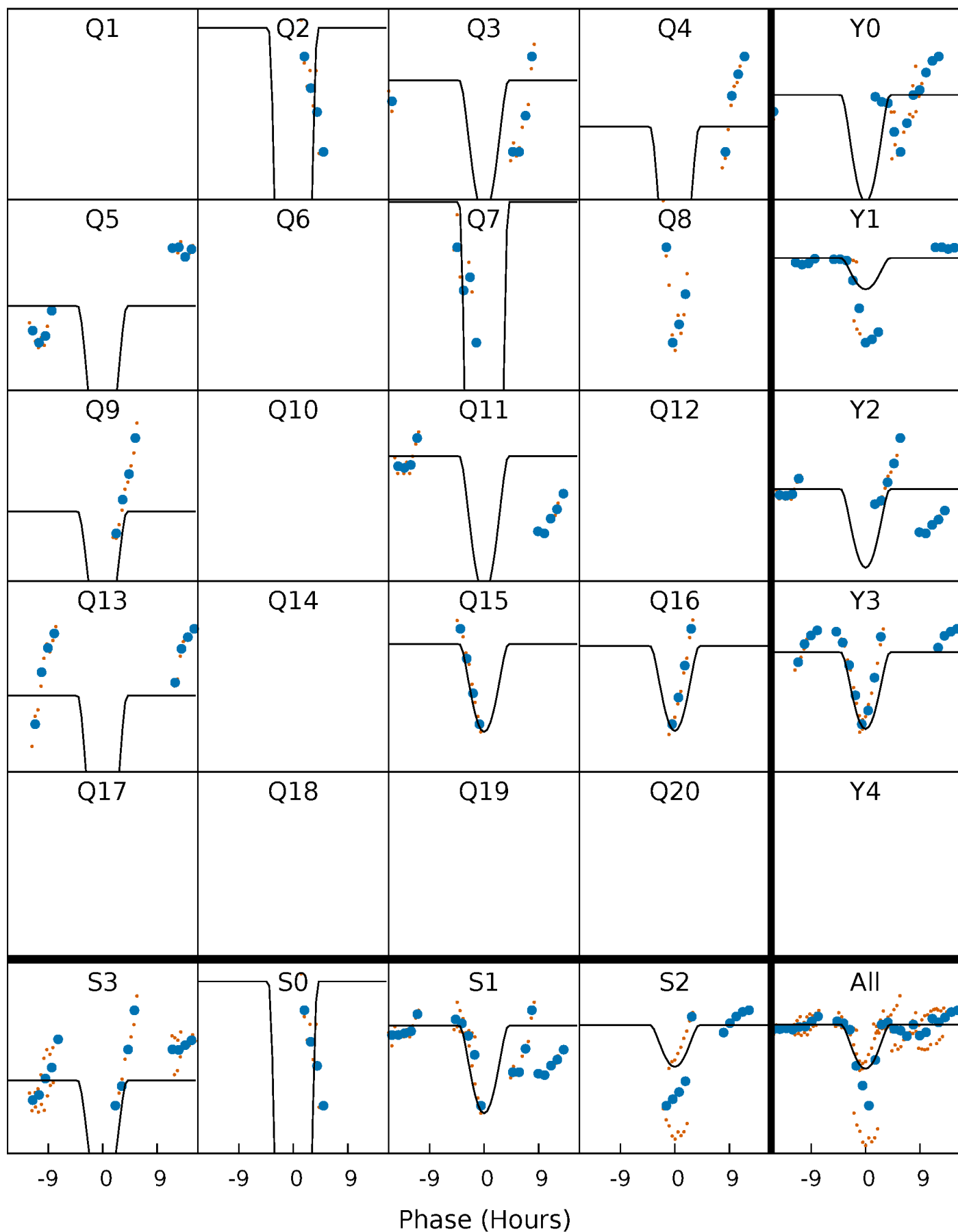
PDC Quarter-Phased Transit Curves

TCE 004285040-06 P=101.733249 Days $T_0=181.215102$ (BKJD)



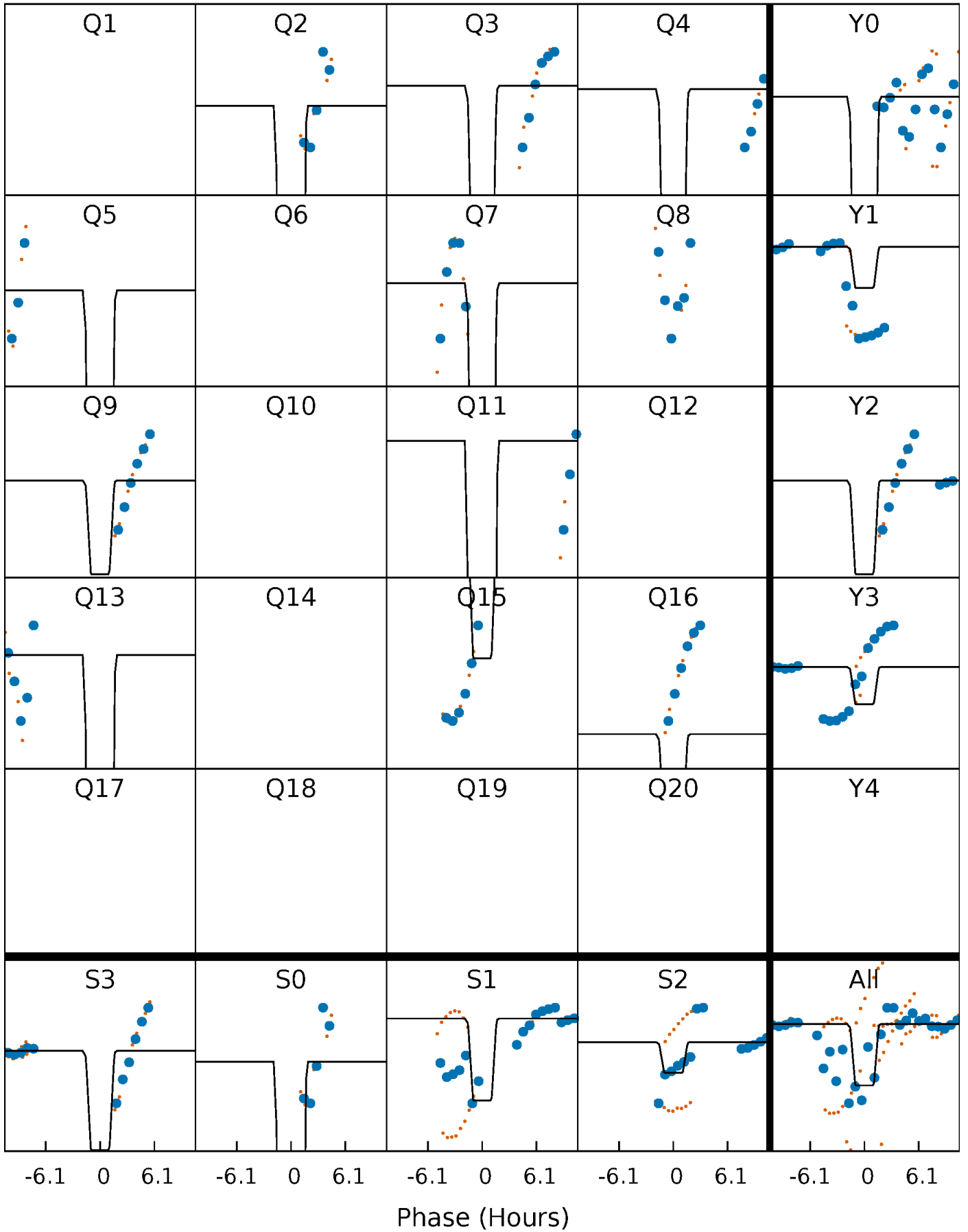
DV Quarter-Phased Transit Curves

TCE 004285040-06 $P=101.733249$ Days $T_0=181.215102$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

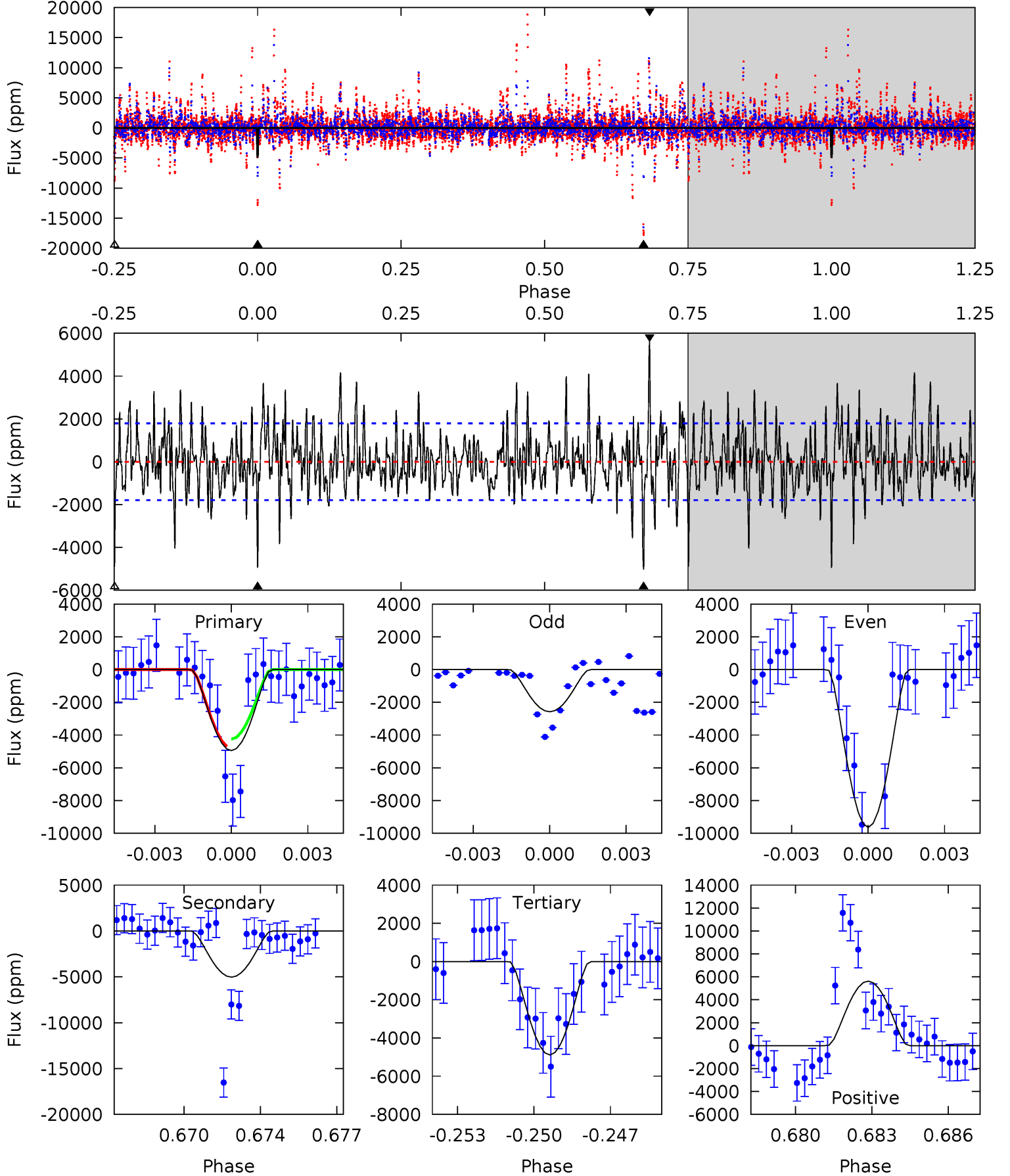
TCE 004285040-06 P=101.732323 Days $T_0=181.224481$ (BKJD)



DV Model-Shift Uniqueness Test

004285040-06, P = 101.733249 Days, E = 79.481853 Days

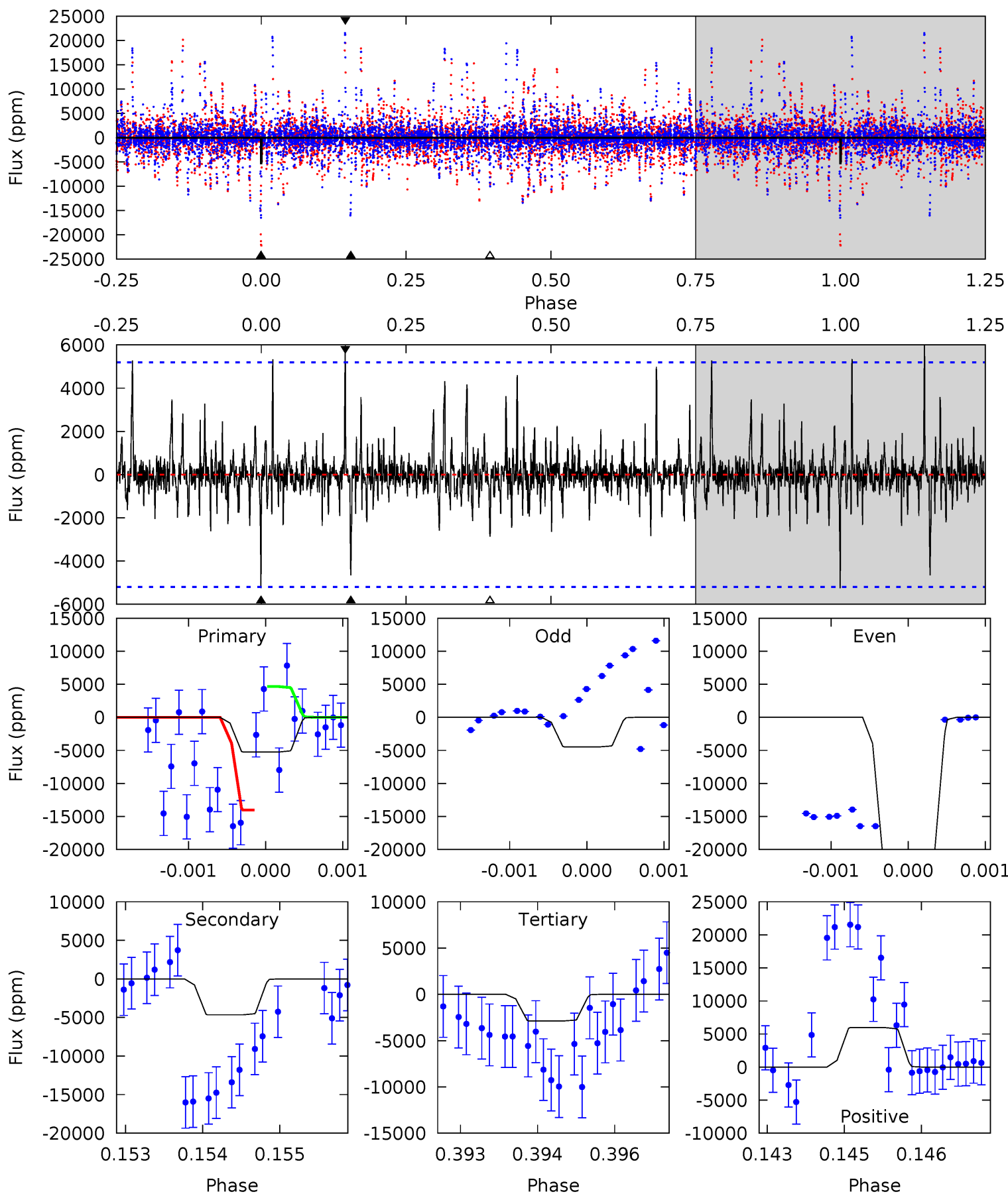
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	14.7	14.3	16.4	5.24	2.95	3.45	0.18	-1.97	0.43	-1.72	9.59	1.71	0.53	0.64



Alt Model-Shift Uniqueness Test

004285040-06, P = 101.732323 Days, E = 79.492158 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.46	4.84	2.98	6.20	5.40	3.20	0.82	2.48	-0.74	1.86	-1.36	9.82	1.44	0.53	0



Stellar Parameters For KIC 004285040

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7701^{+214}_{-322}	$3.862^{+0.308}_{-0.103}$	$-0.020^{+0.200}_{-0.350}$	$2.703^{+0.436}_{-1.017}$	$1.939^{+0.110}_{-0.467}$	$0.138^{+0.289}_{-0.046}$
	+3%/-4%	+8%/-3%	+1000%/-1750%	+16%/-38%	+6%/-24%	+209%/-34%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004285040-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-5032 ± 342	$66.14^{+63.11}_{-45.49}$	1053^{+71}_{-97}	4336^{+2839}_{-869}	174^{+1622}_{-128}
Alt.	-4659 ± 962	$62.98^{+64.98}_{-41.42}$	1042^{+76}_{-96}	4287^{+2859}_{-924}	175^{+1338}_{-135}

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 $A_{obs} \gg 1.0$

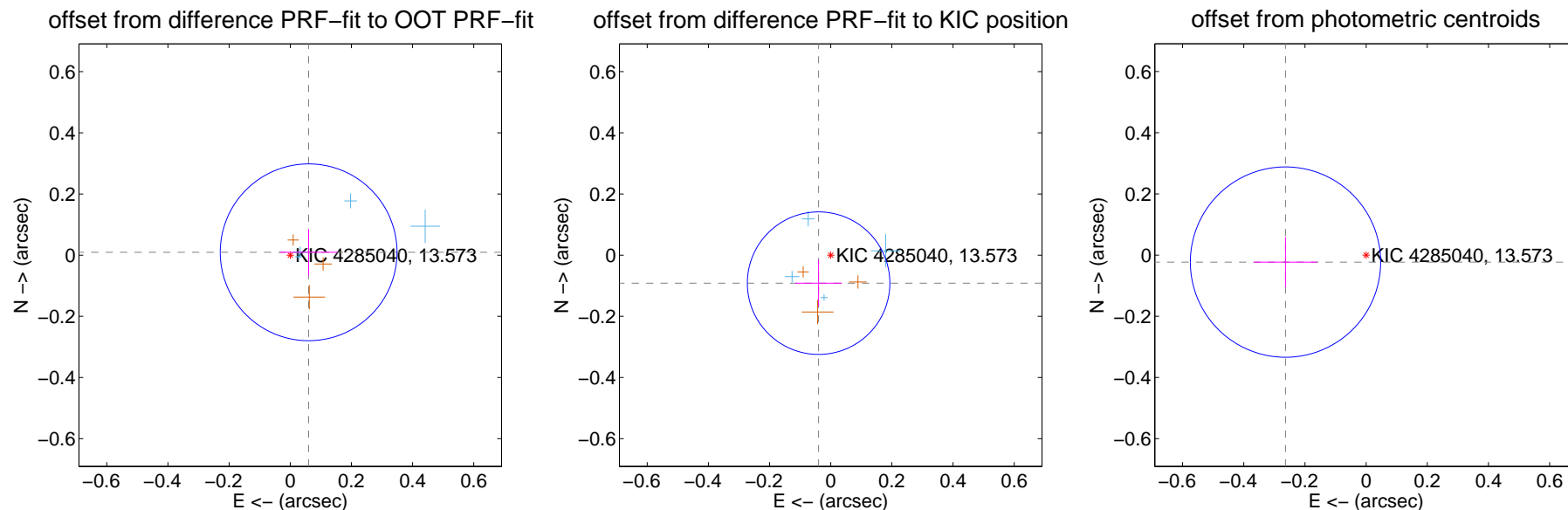
DV Centroid Data

Supplemental centroid analysis for 004285040-06. Kepler magnitude: 13.57. Transit SNR 9.11

There are 4 quarters with good PRF difference image offsets

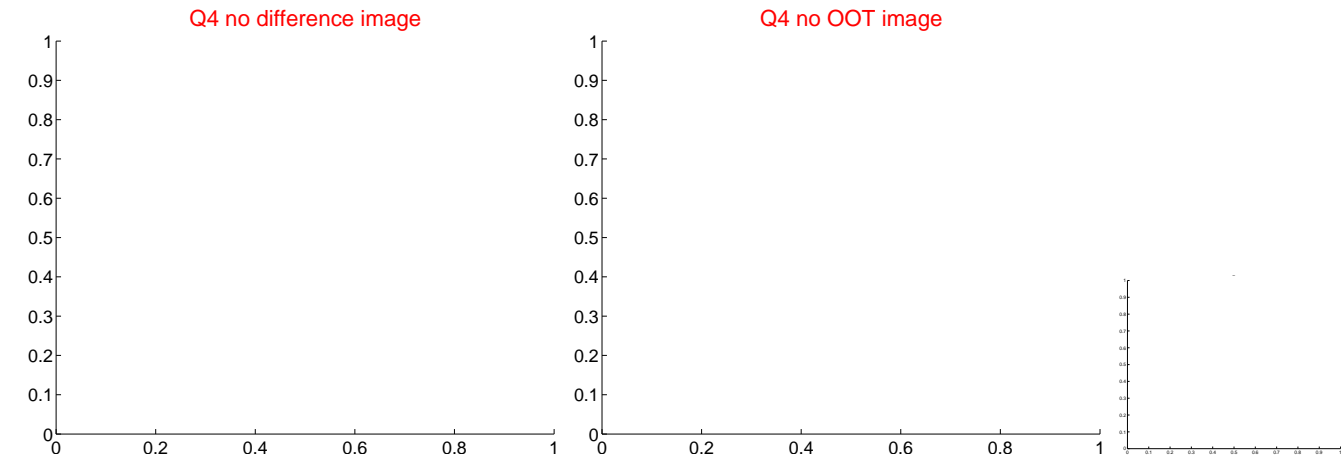
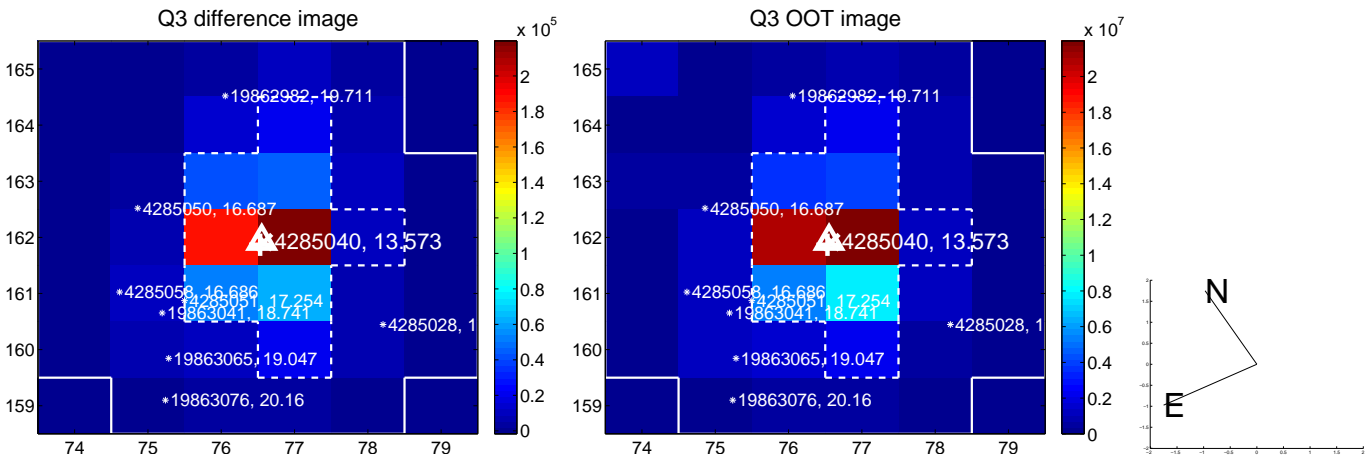
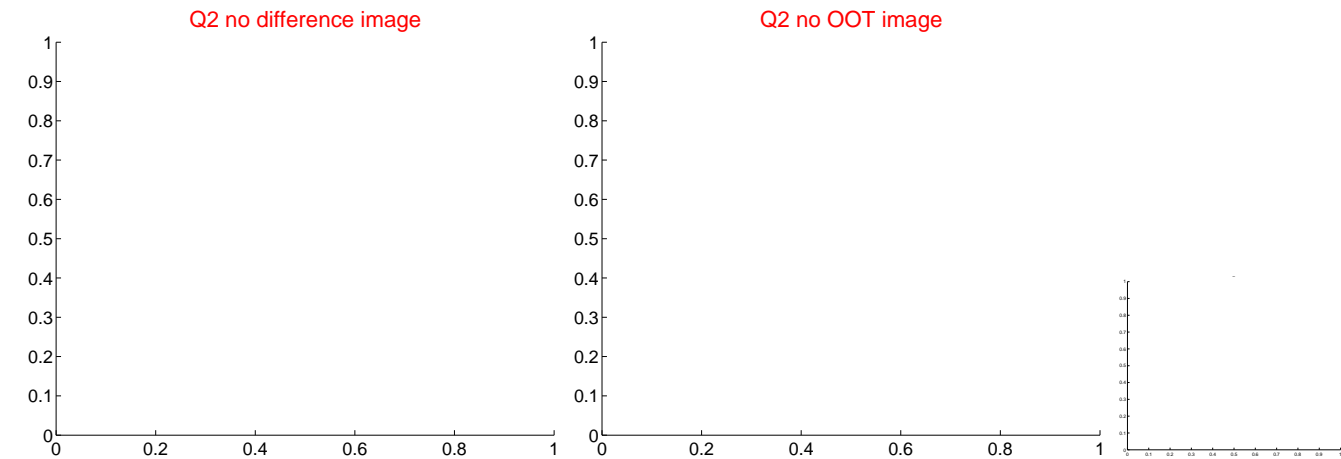
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.061 ± 0.096	0.63	-0.060 ± 0.094	0.009 ± 0.076
PRF-fit source offset from KIC position	0.100 ± 0.078	1.28	0.040 ± 0.076	-0.092 ± 0.076
photometric centroid source offset	0.26 ± 0.10	2.55	0.26 ± 0.10	-0.02 ± 0.08

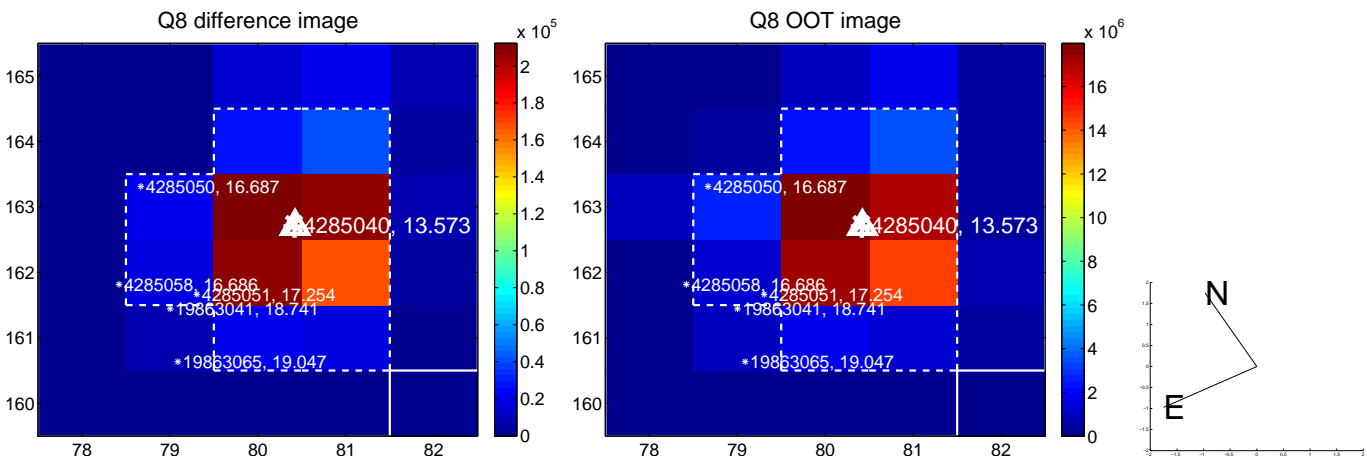
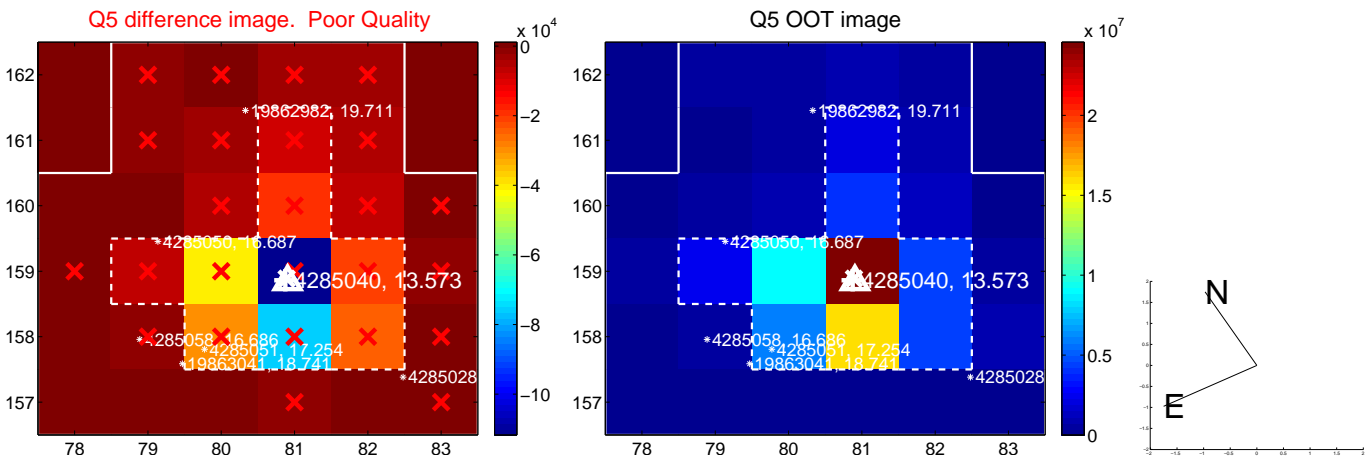


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

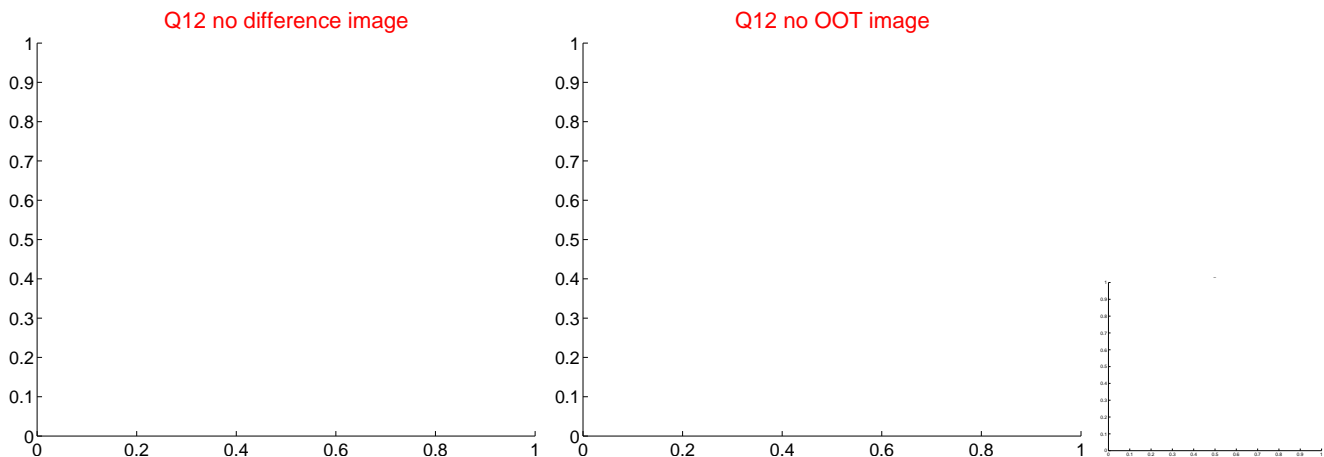
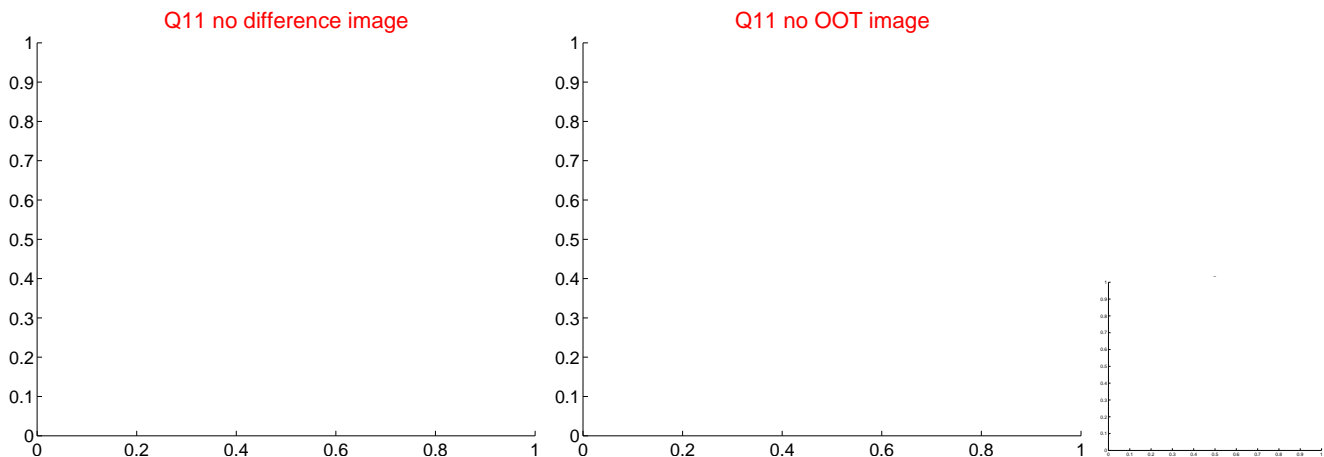
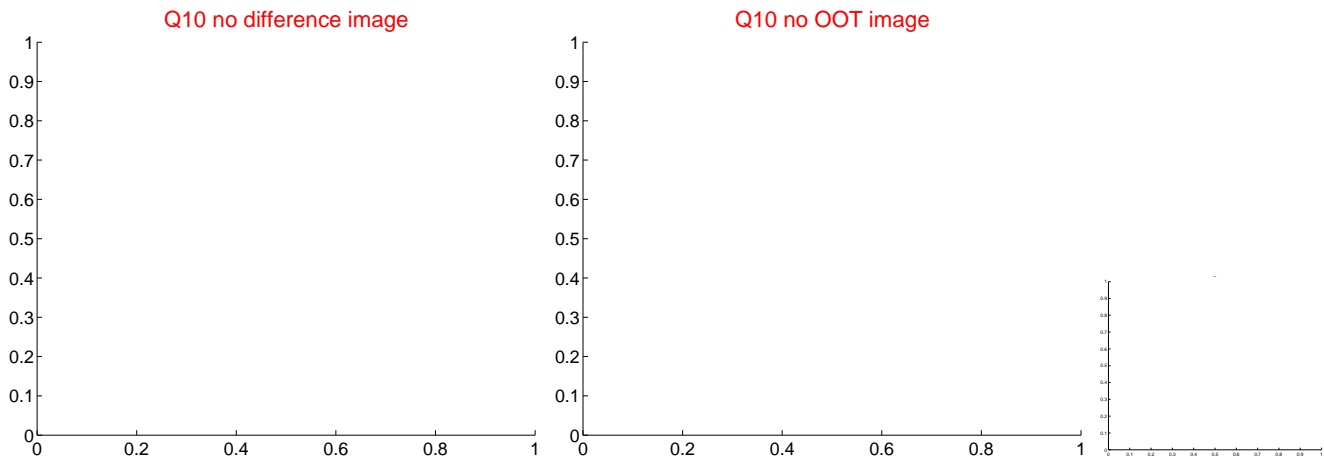
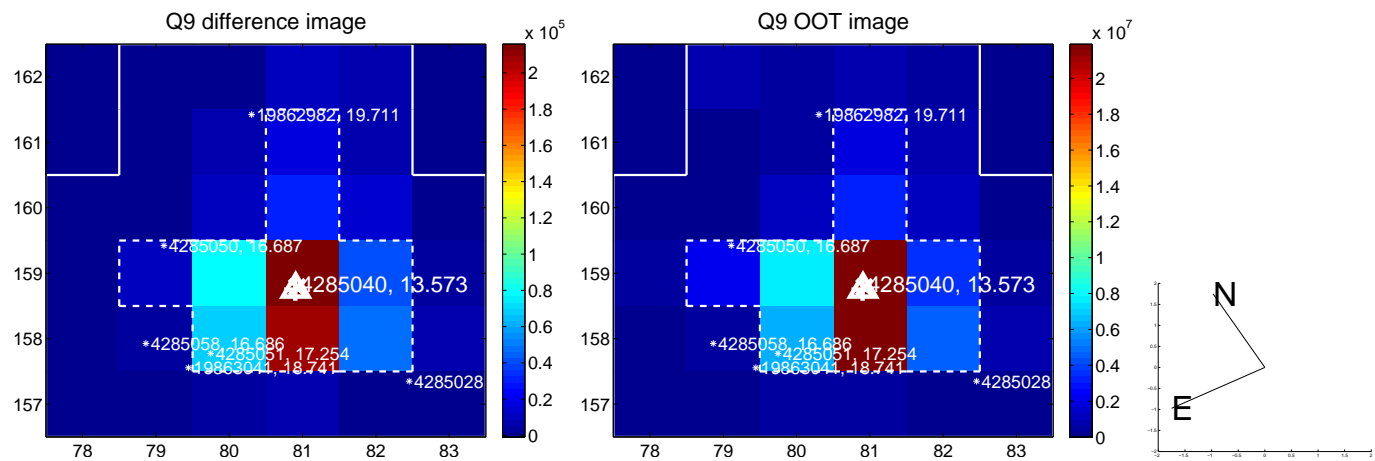
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



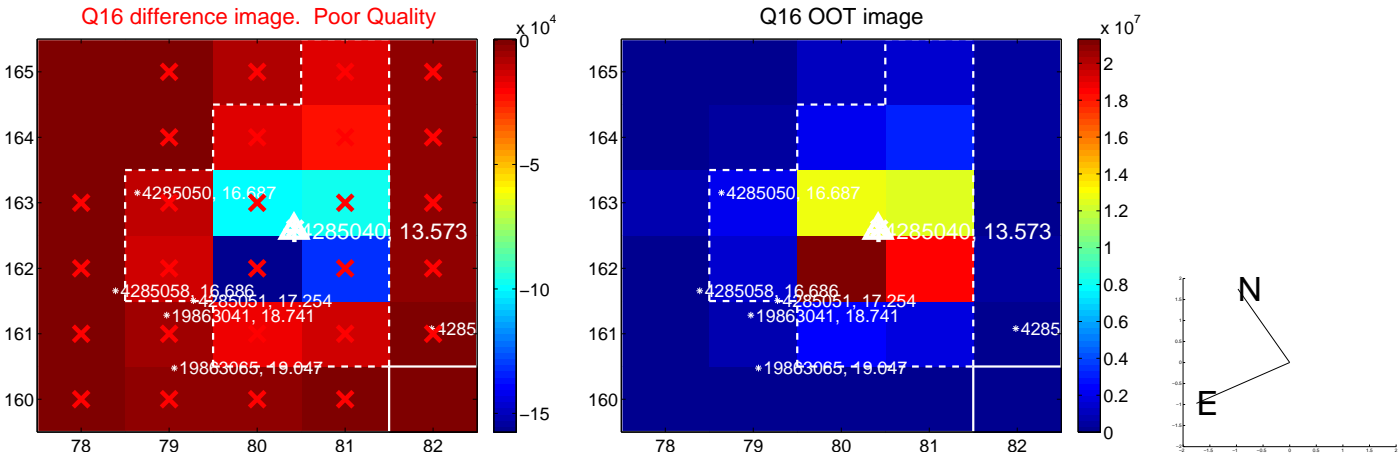
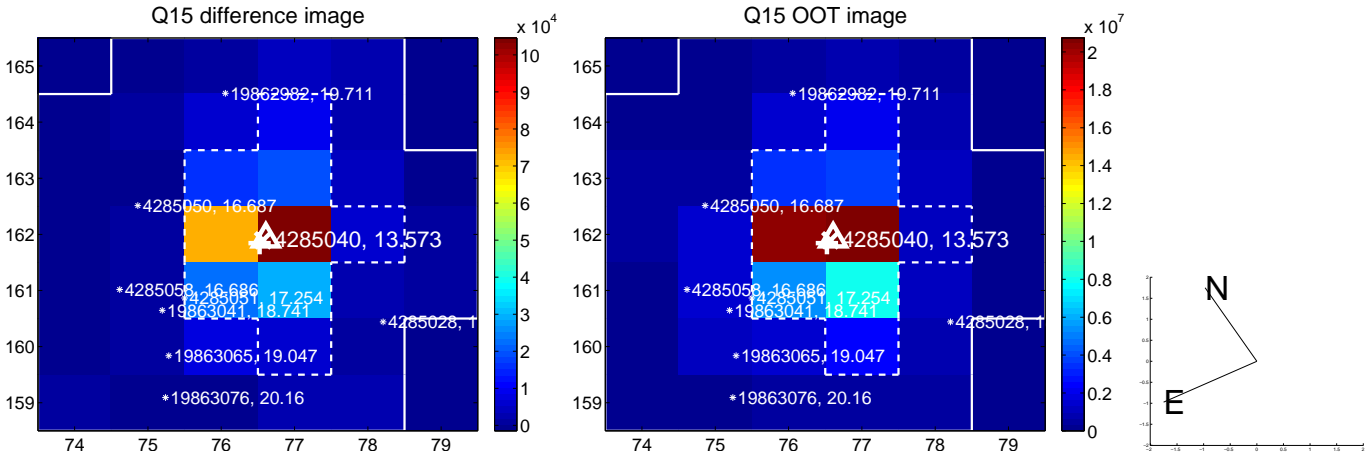
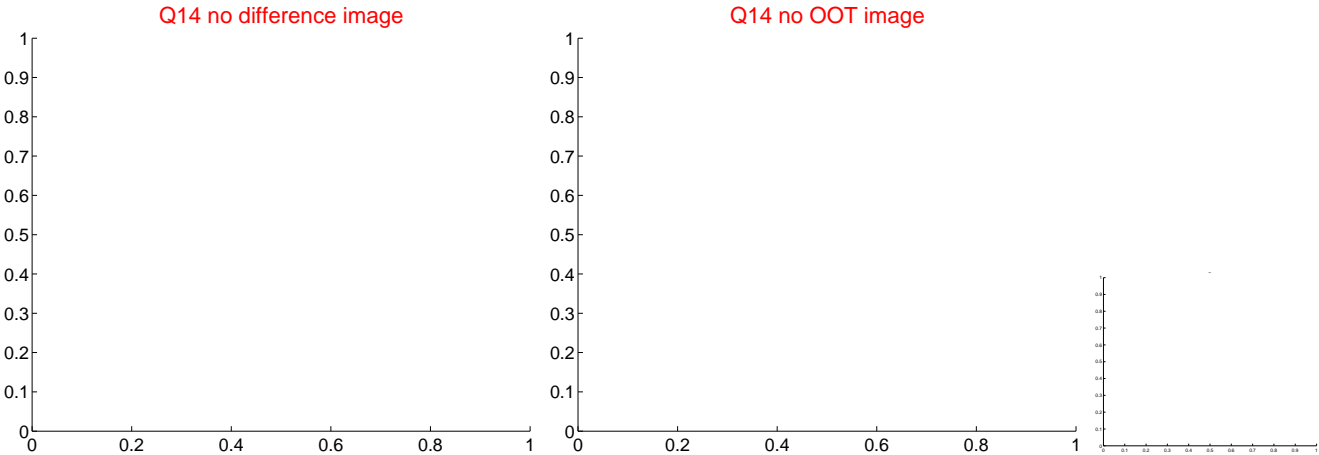
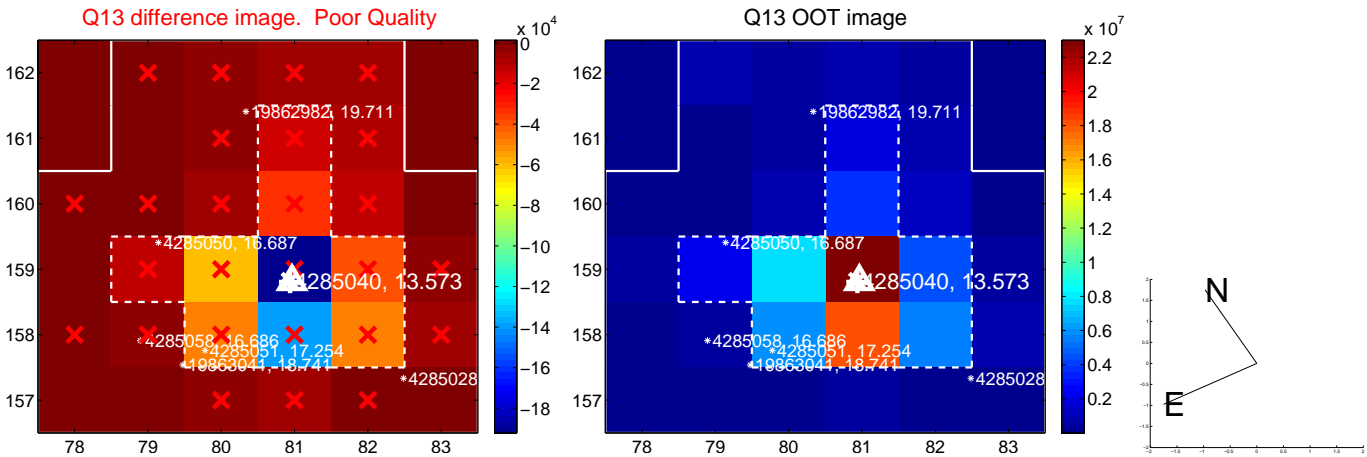
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



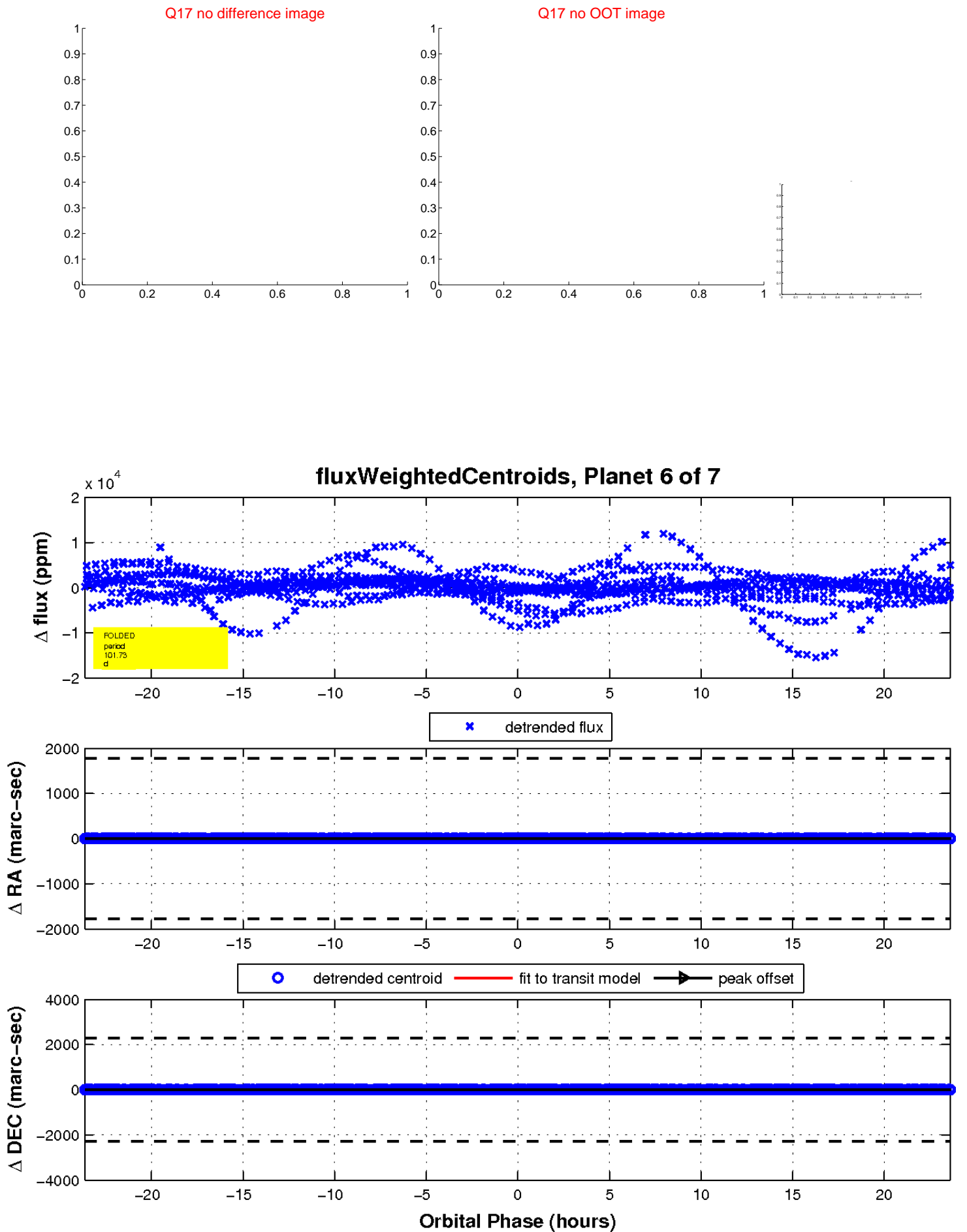
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

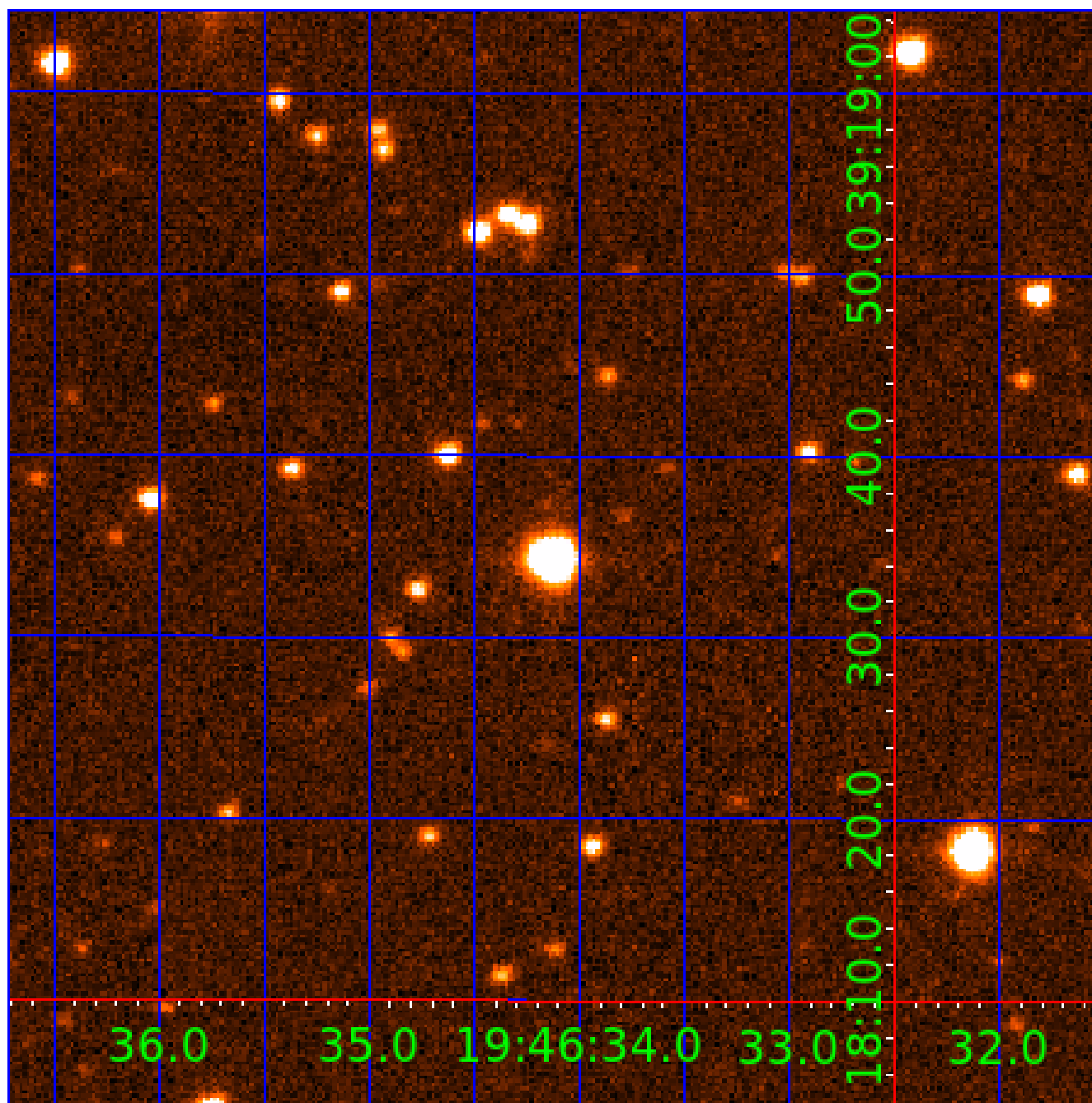


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004285040

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})
004285040-01	OBS	No	0.979586	131.872964	66.5	6.211	8.2	5.8	2.70	7701	2.31	39712.14
004285040-02	OBS	No	74.534187	149.294479	5905.1	7.496	21.0	9.3	2.70	7701	36.77	123.17
004285040-03	OBS	No	81.993201	175.525601	4354.3	6.164	15.0	8.8	2.70	7701	31.84	108.46
004285040-04	OBS	No	79.575131	186.600422	3431.1	4.999	14.4	8.1	2.70	7701	28.43	112.88
004285040-05	OBS	No	119.291949	197.174239	428.1	6.000	10.8	-1.0	2.70	7701	5.67	65.79
004285040-06	OBS	No	101.733249	181.215102	4671.8	7.879	13.1	9.1	2.70	7701	32.90	81.35
004285040-07	OBS	No	1.960053	131.626784	439.7	4.500	11.9	-1.0	2.70	7701	5.74	15750.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004285040-01	OBS	FP	0.00	1	0	0	0	LPP_DV
004285040-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV
004285040-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES
004285040-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT
004285040-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST
004285040-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
004285040-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—CENT_NOFITS

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

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

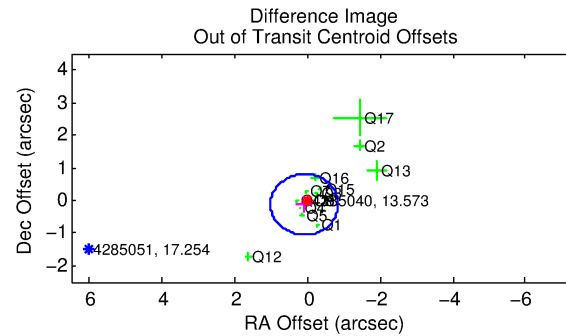
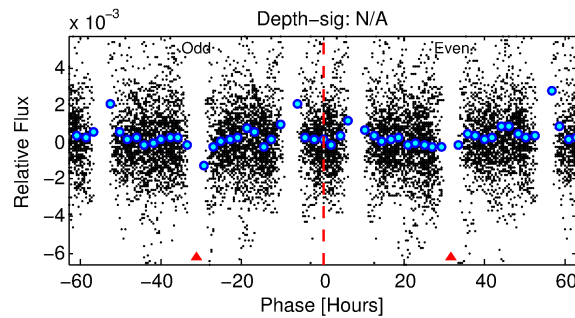
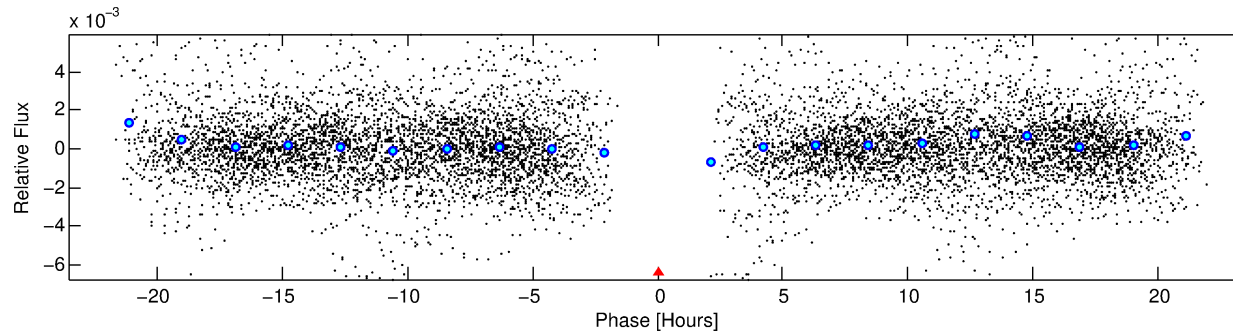
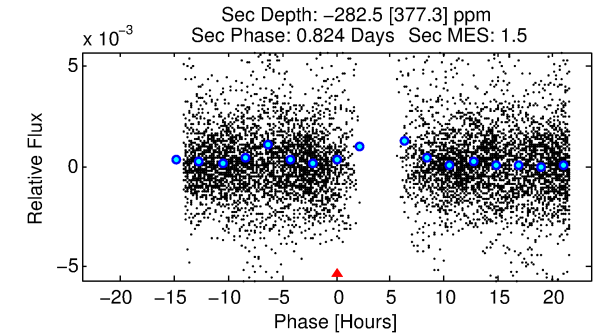
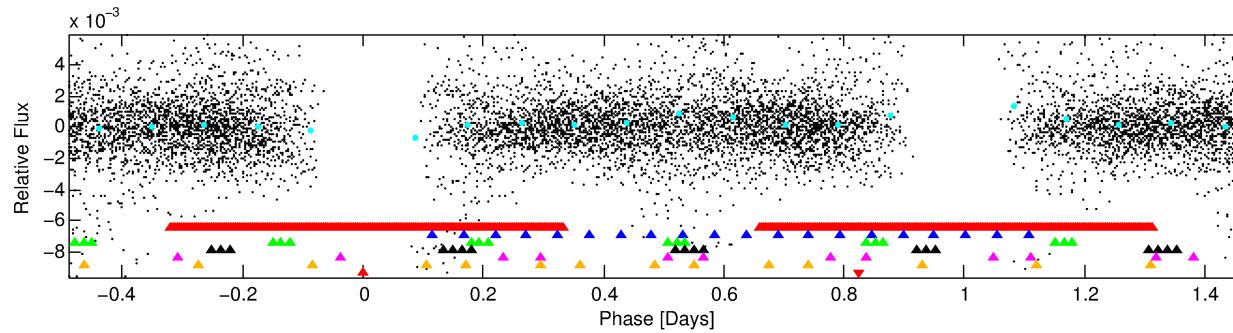
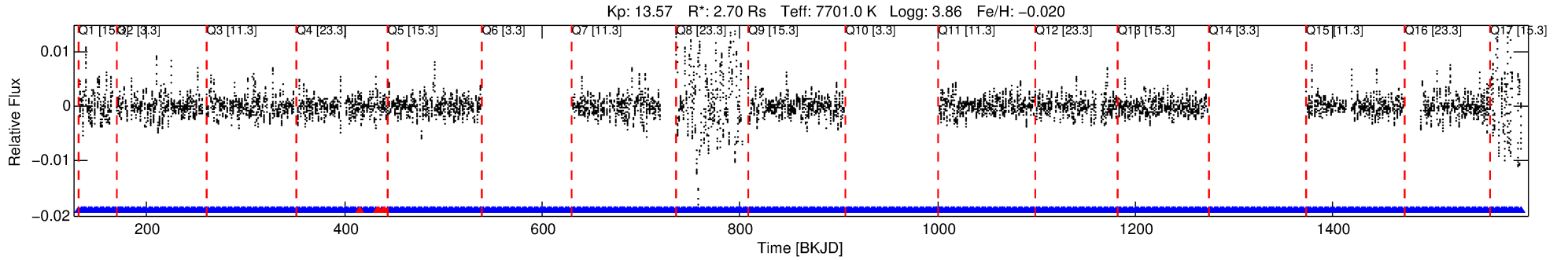
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004285040-07

No Significant Match Found

DV One-Page Summary

KIC: 4285040 Candidate: 7 of 7 Period: 1.960 d



TPS TCE Results:

Period = 1.96005 d
Epoch = 131.6268 BKJD

DV fit results are unavailable

DV Diagnostic Results:

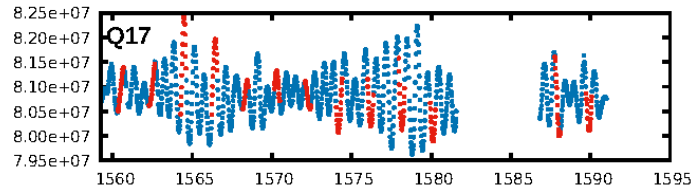
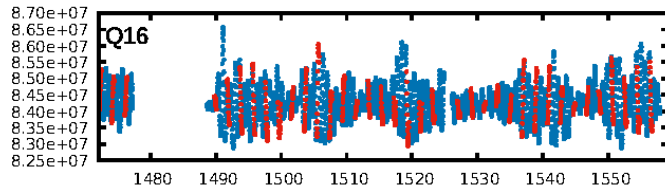
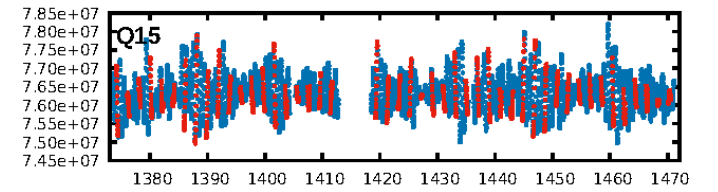
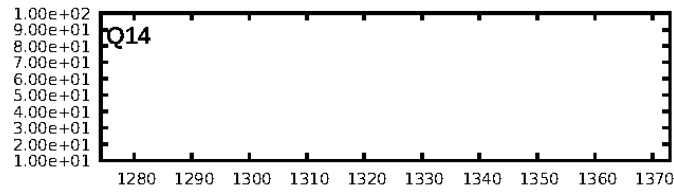
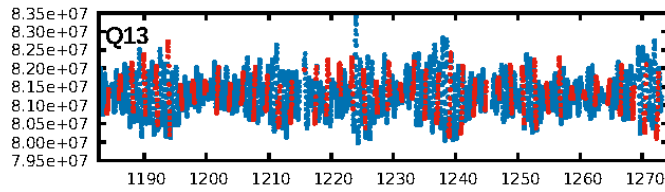
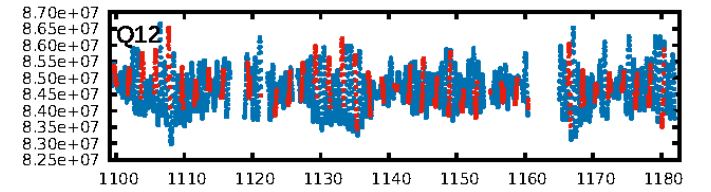
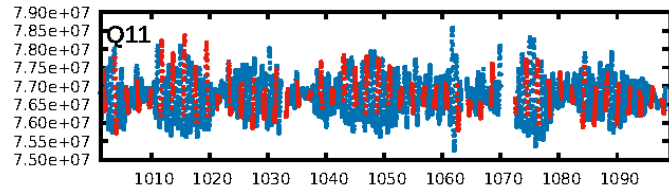
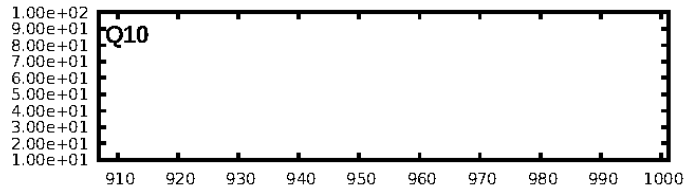
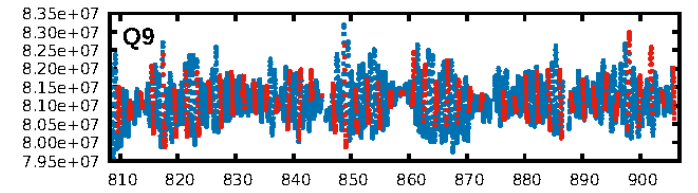
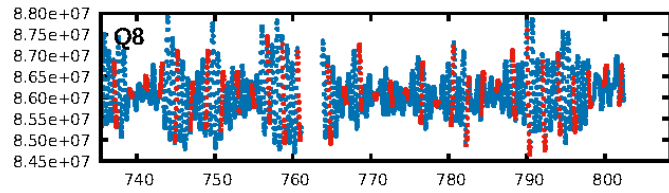
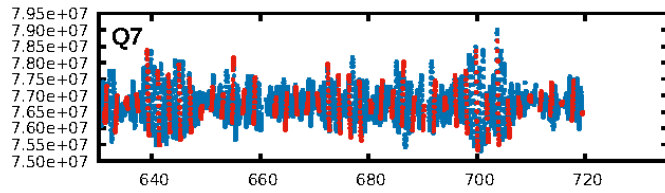
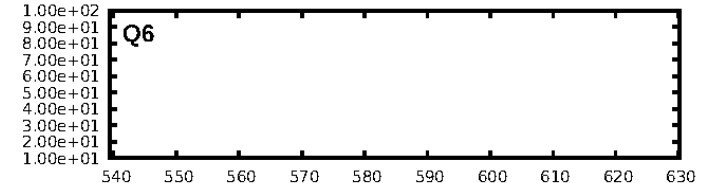
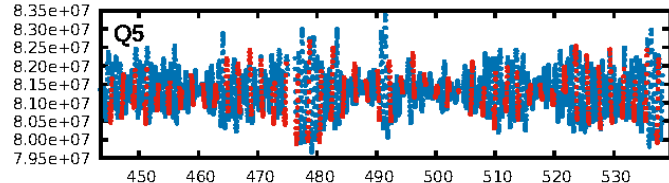
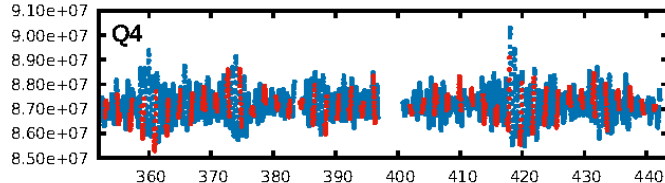
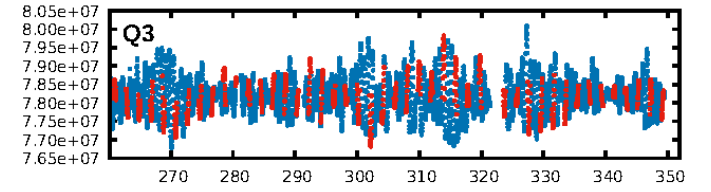
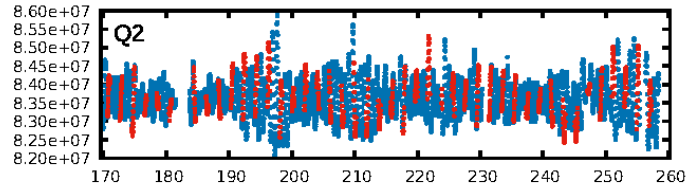
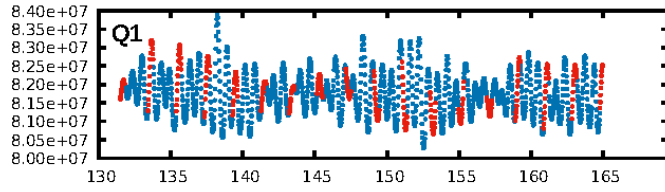
ShortPeriod-sig: 99.8% [3.07σ]
LongPeriod-sig: 100.0% [199.22σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [216/221]
GhostDiagnostic-chr: 2.038

Centroid-sig: 0.0%
Centroid-so: 0.310 arcsec [5.89σ]
OotOffset-rm: 0.153 arcsec [0.49σ]
KicOffset-rm: 0.178 arcsec [0.53σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 0.00 [0/14]

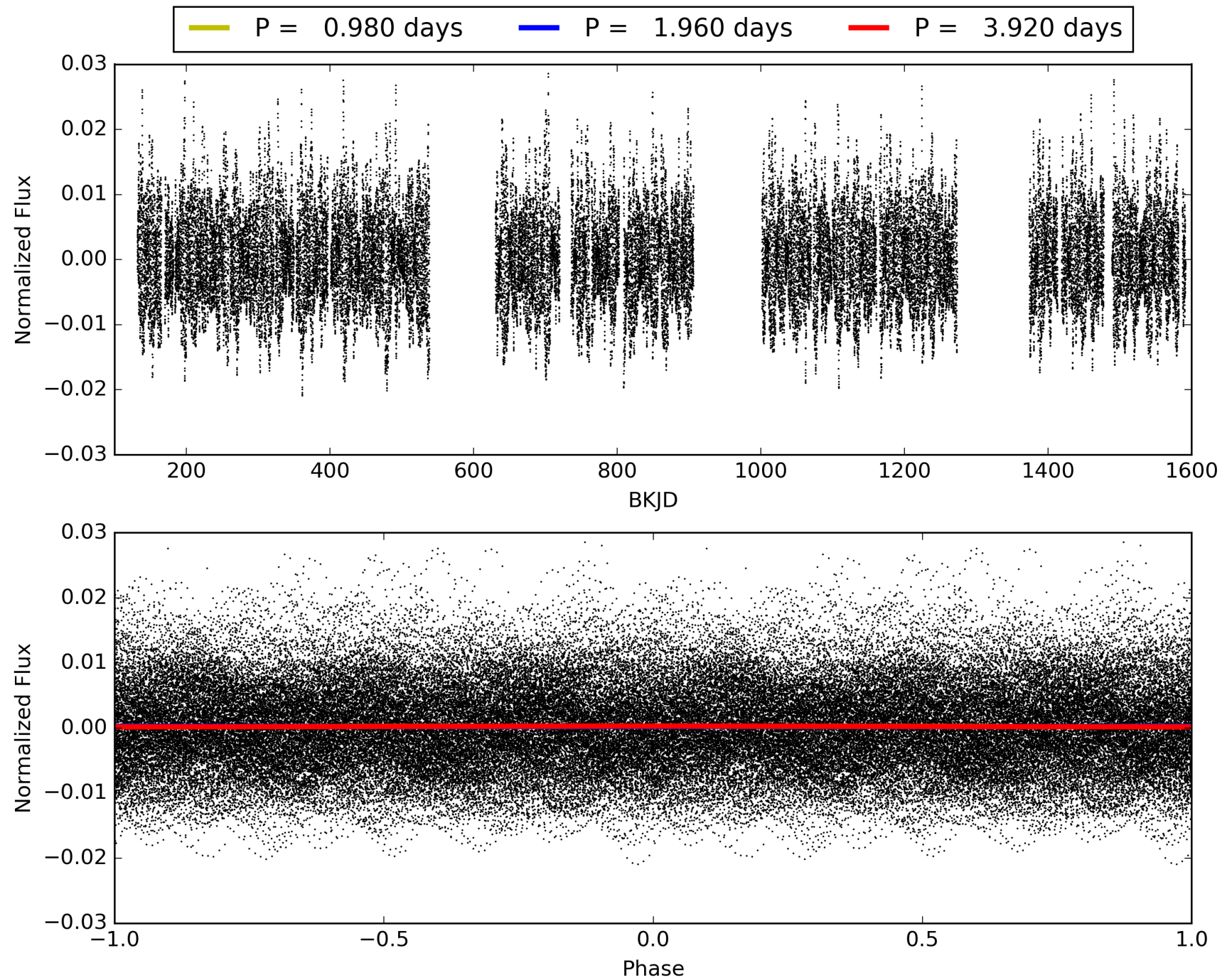
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:45:34 Z

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

TCE 004285040-07, PDC Light Curves

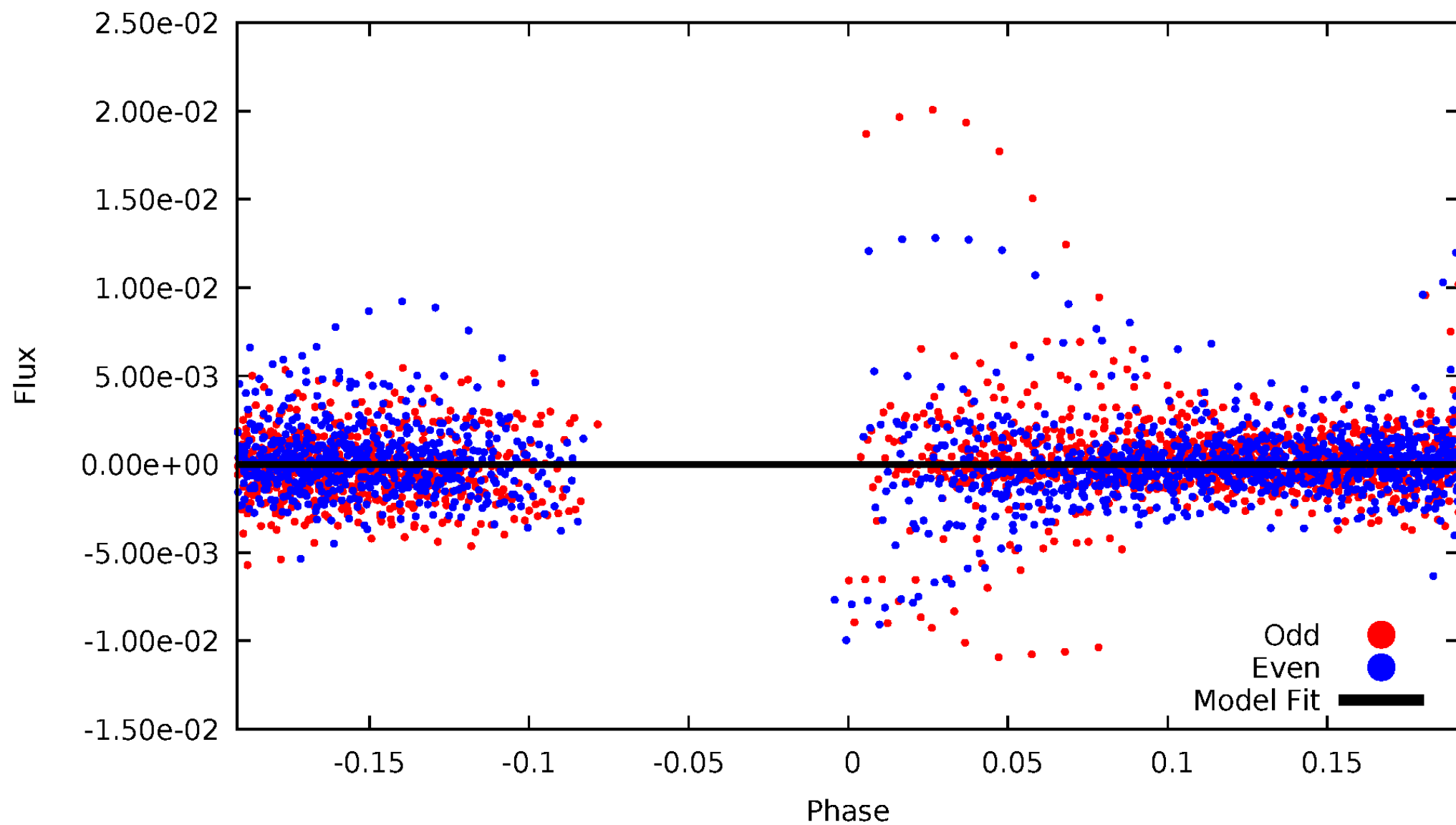


TCE 004285040-07



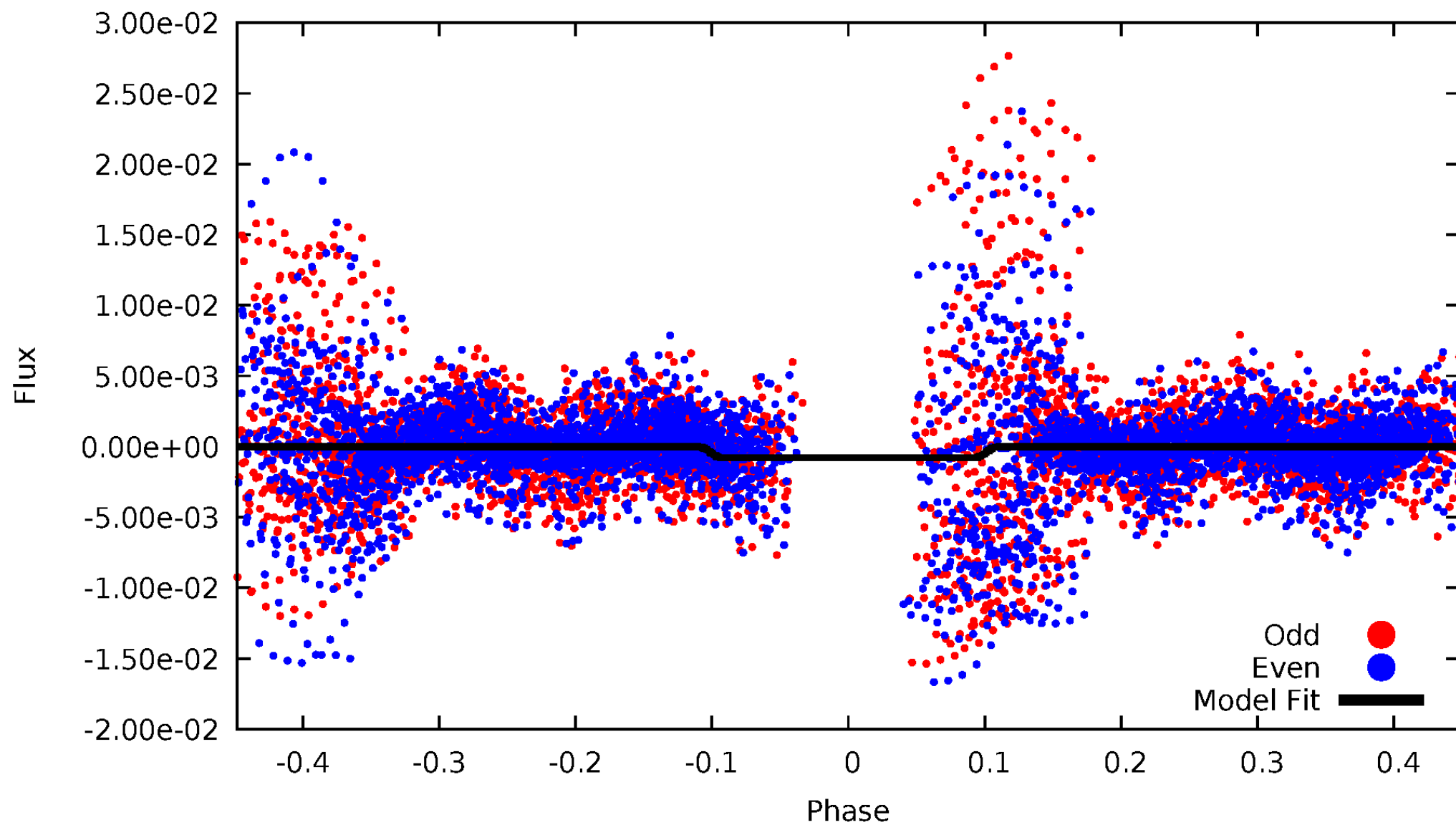
DV Odd/Even

TCE 004285040-07

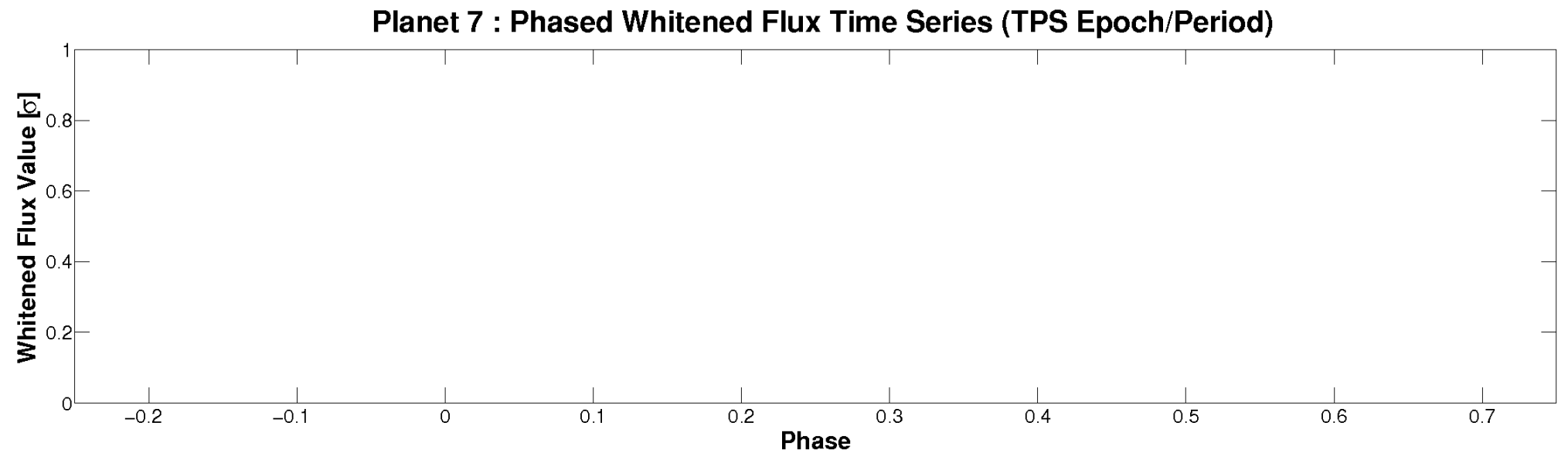
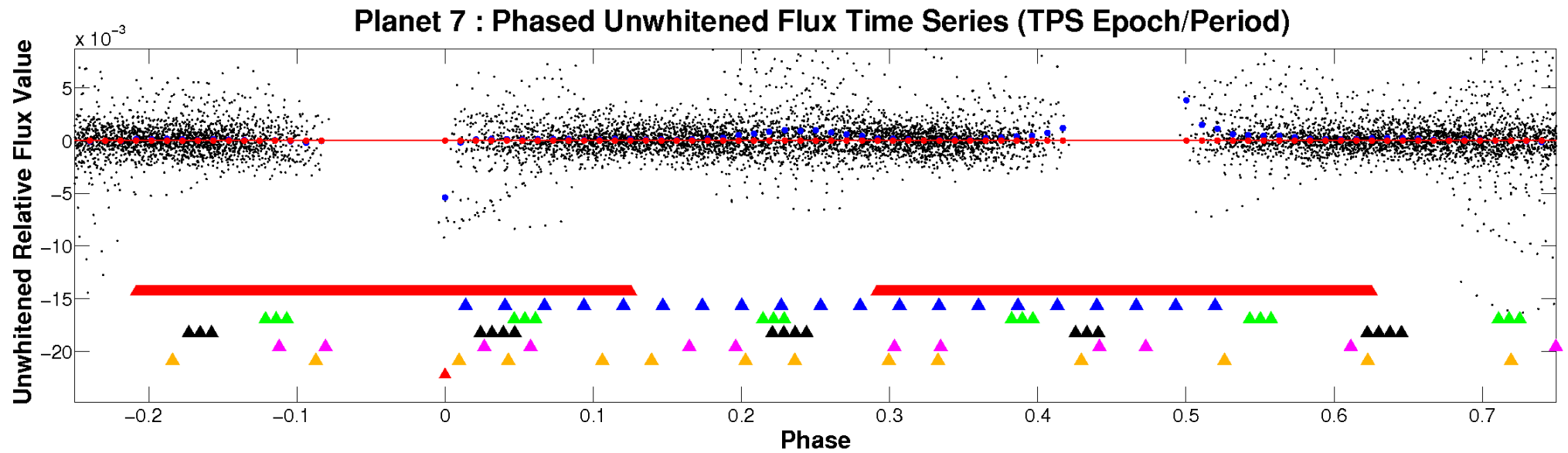


ALT Odd/Even

TCE 004285040-07

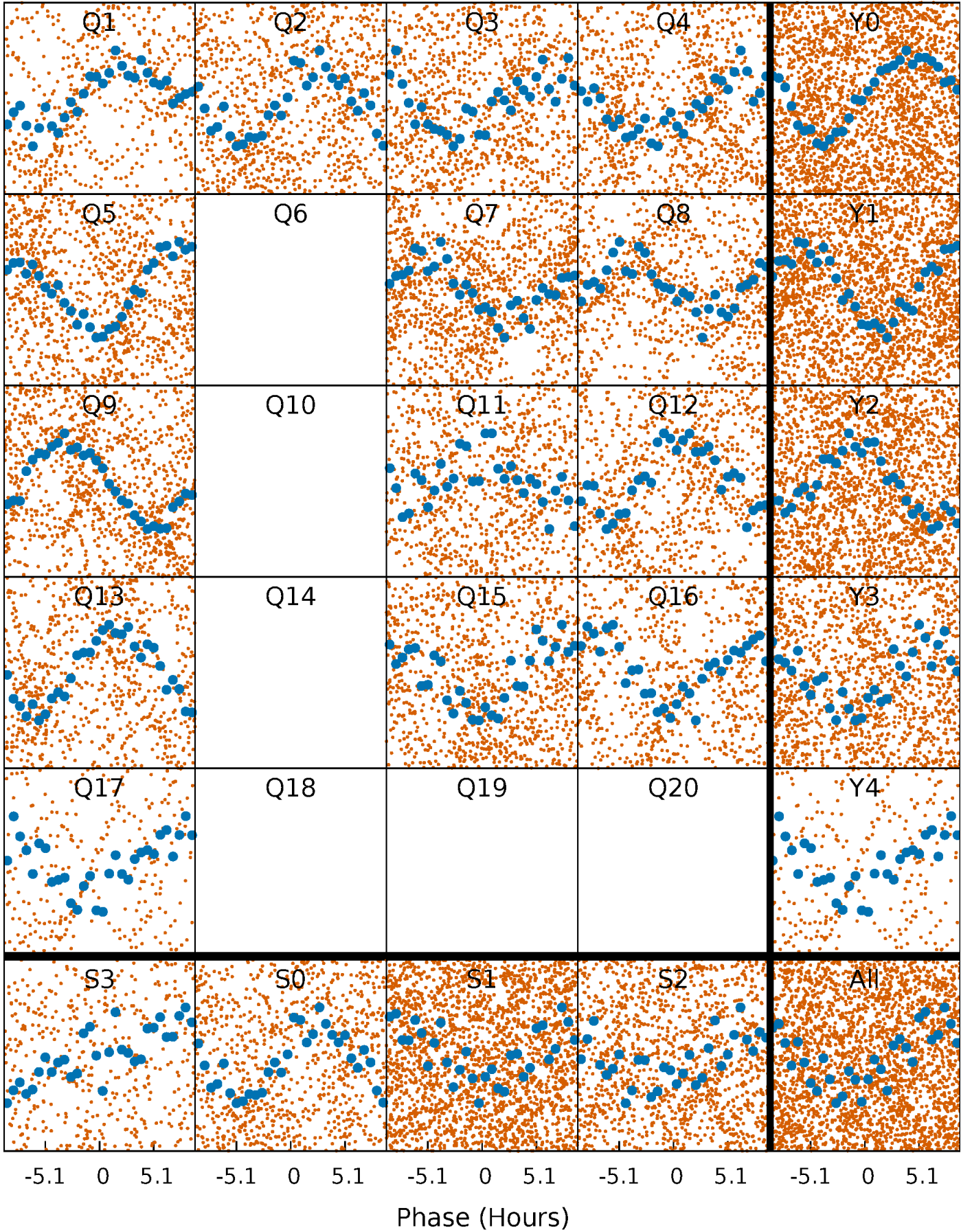


Non-Whitened Vs. Whitened Light Curve



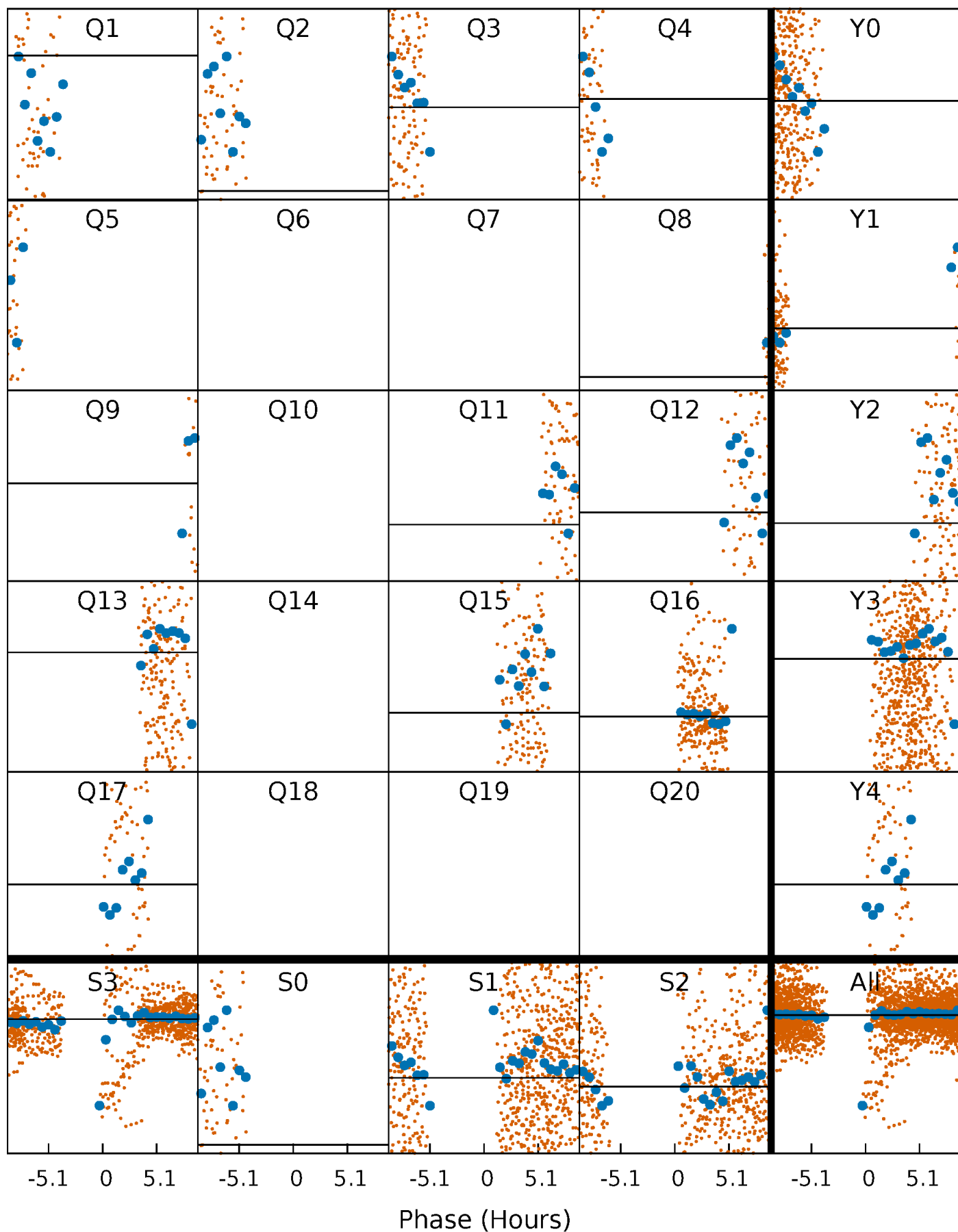
PDC Quarter-Phased Transit Curves

TCE 004285040-07 $P = 1.960053$ Days $T_0 = 131.626784$ (BKJD)



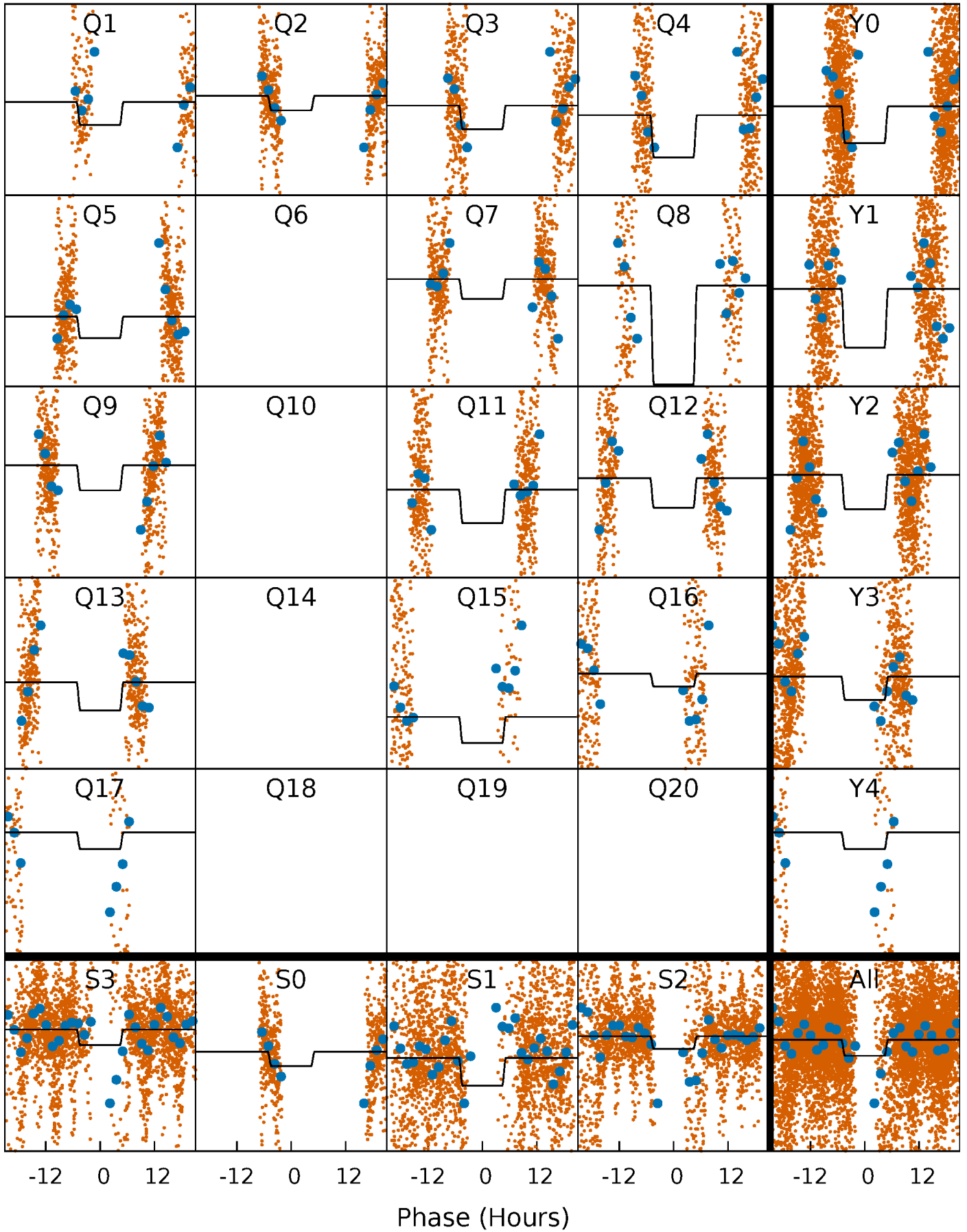
DV Quarter-Phased Transit Curves

TCE 004285040-07 $P = 1.960053$ Days $T_0 = 131.626784$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

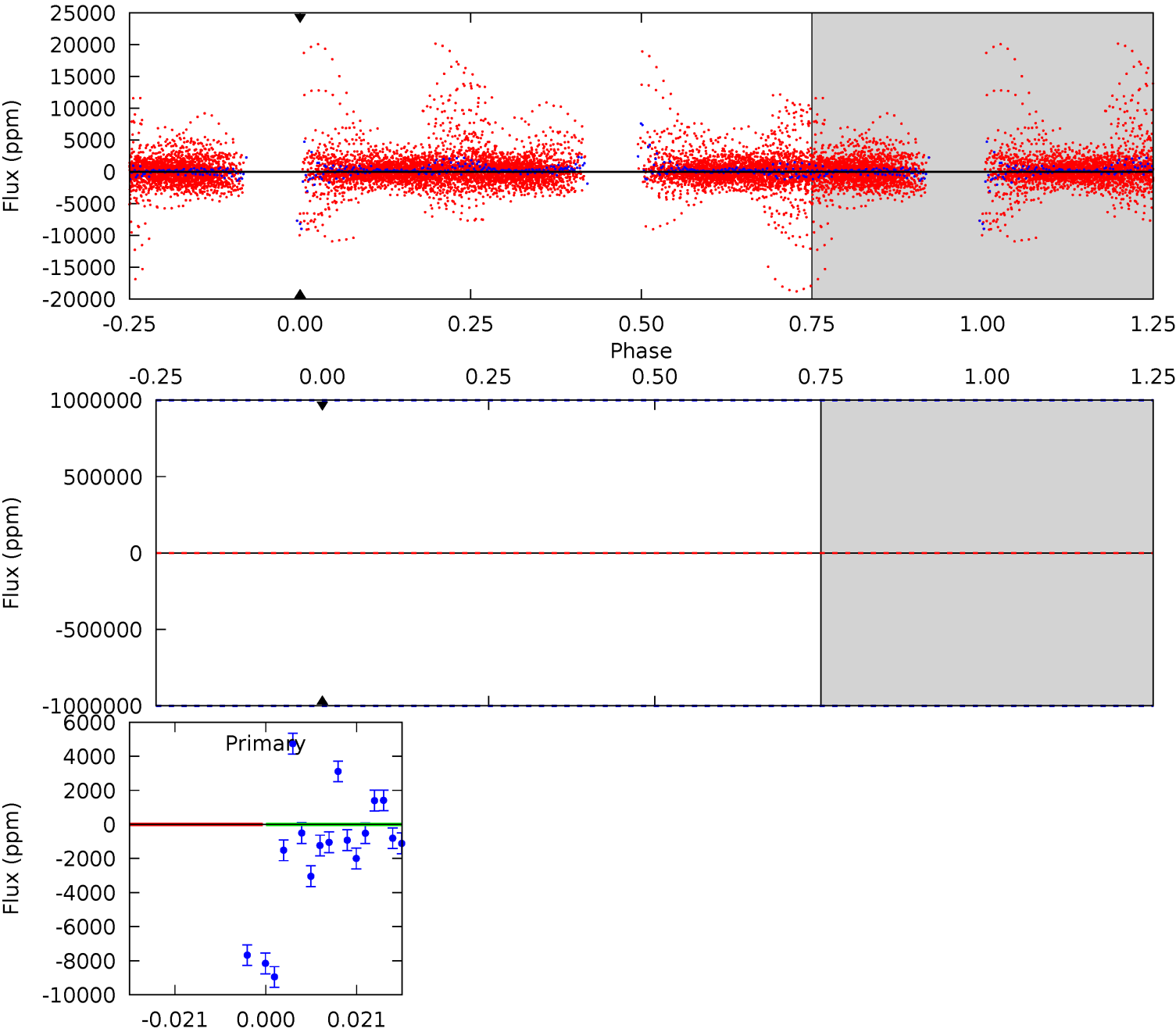
TCE 004285040-07 $P = 1.960053$ Days $T_0 = 131.538896$ (BKJD)



DV Model-Shift Uniqueness Test

004285040-07, P = 1.960053 Days, E = 131.626784 Days

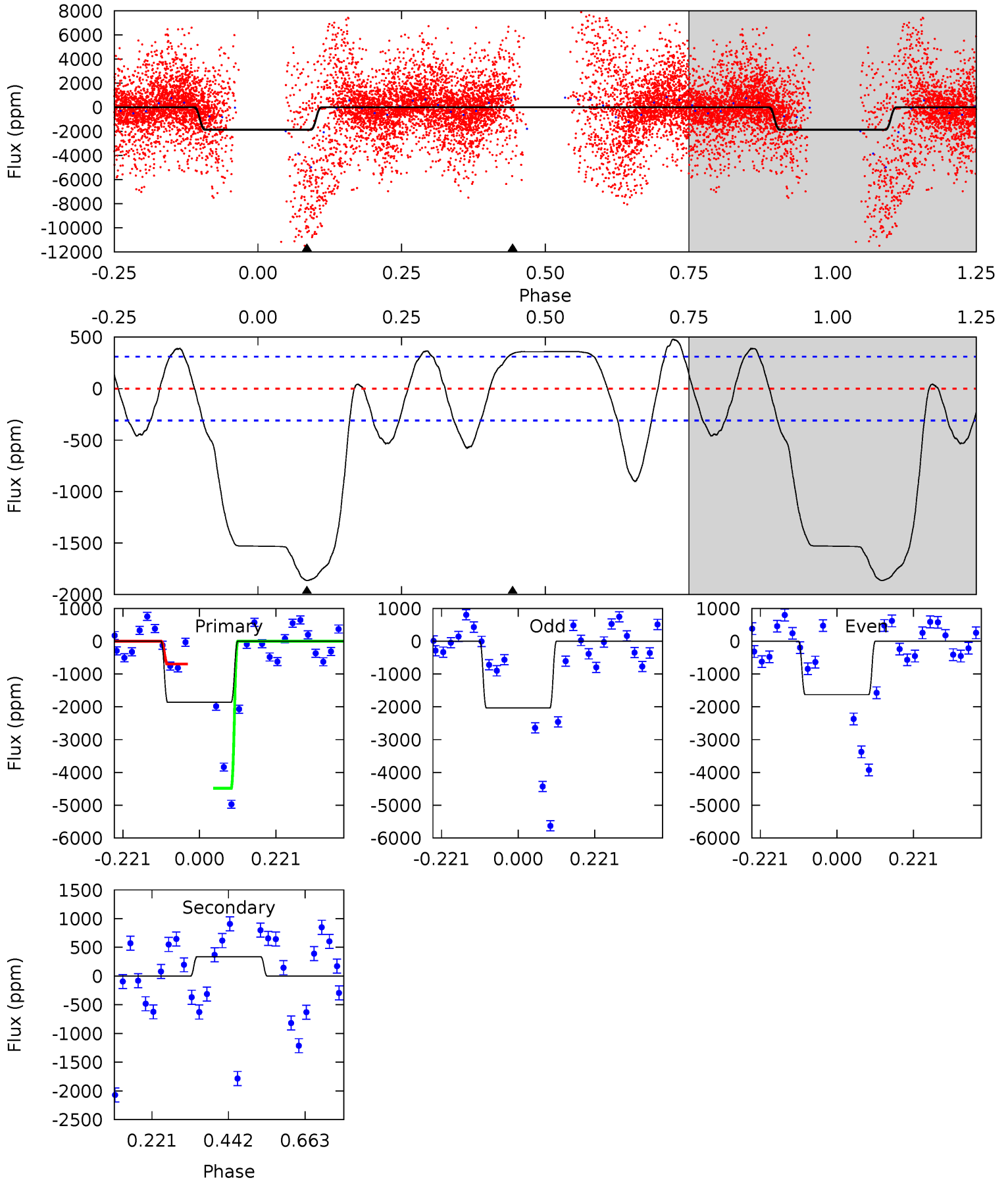
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

004285040-07, P = 1.960053 Days, E = 131.538896 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.5	-4.81	0	0	4.40	1.22	5.06	26.5	26.5	-4.81	-4.81	2.91	1.32	0.20	26.7



Stellar Parameters For KIC 004285040

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7701^{+214}_{-322}	$3.862^{+0.308}_{-0.103}$	$-0.020^{+0.200}_{-0.350}$	$2.703^{+0.436}_{-1.017}$	$1.939^{+0.110}_{-0.467}$	$0.138^{+0.289}_{-0.046}$
	+3%/-4%	+8%/-3%	+1000%/-1750%	+16%/-38%	+6%/-24%	+209%/-34%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004285040-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$20.65^{+21.74}_{-14.27}$	3917^{+247}_{-363}	-5698^{+54242}_{-31410}	$-3.084^{+395.783}_{-294.538}$
Alt.	339 ± 70	$21.32^{+21.24}_{-14.34}$	3910^{+277}_{-379}	-4288^{+465}_{-2127}	$-0.568^{+0.426}_{-4.937}$

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 $A_{obs} \gg 1.0$

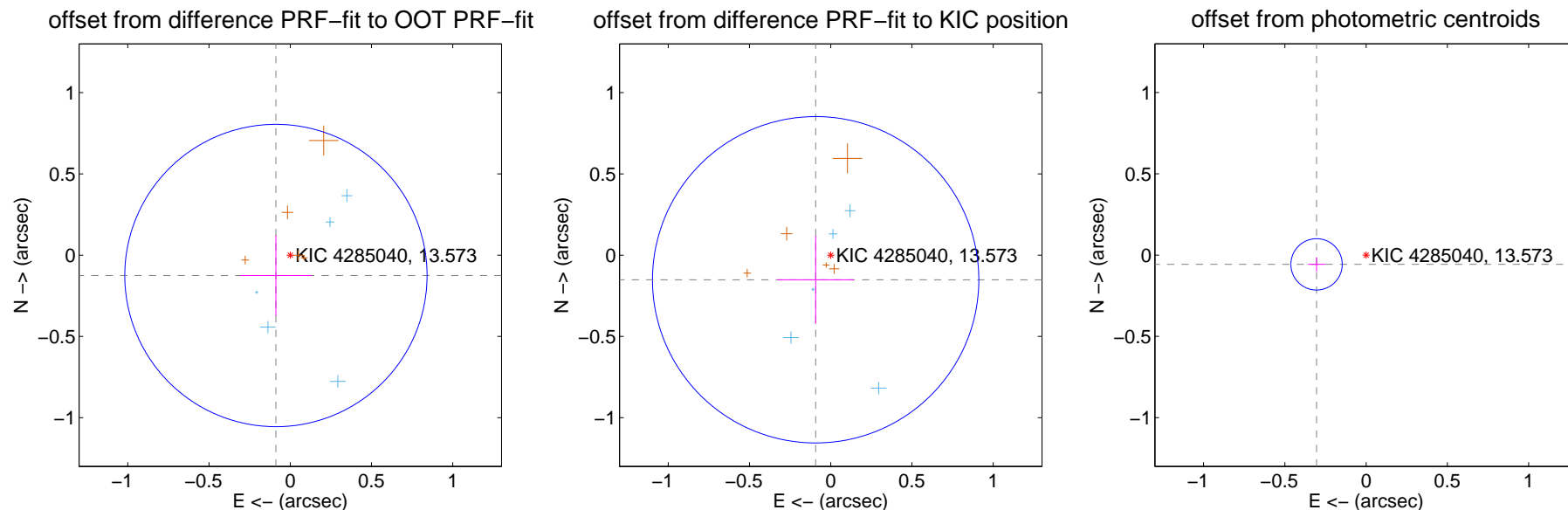
DV Centroid Data

Supplemental centroid analysis for 004285040-07. Kepler magnitude: 13.57. Transit SNR -1.00

There are 7 quarters with good PRF difference image offsets

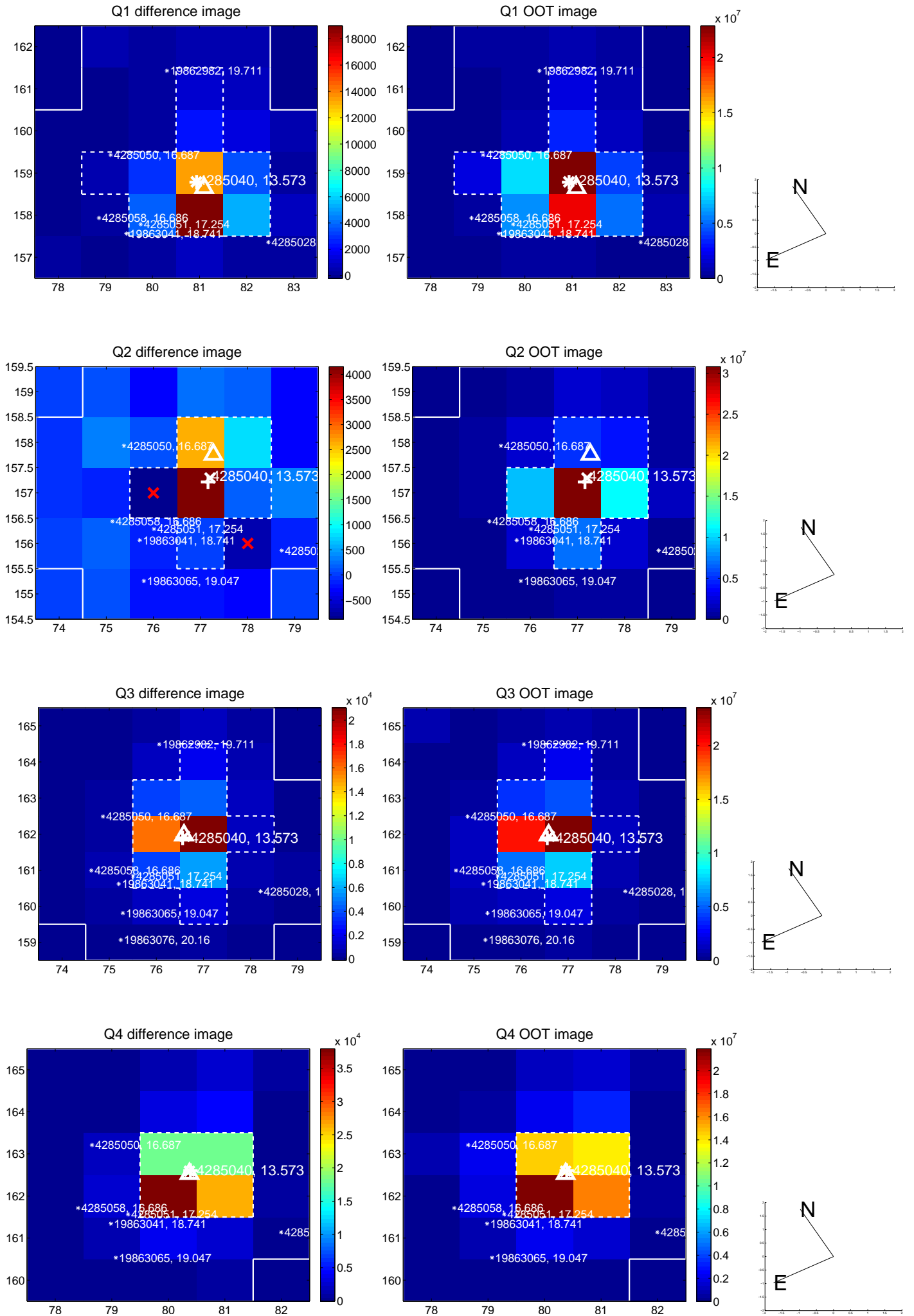
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.153 ± 0.310	0.49	0.088 ± 0.220	-0.125 ± 0.247
PRF-fit source offset from KIC position	0.178 ± 0.335	0.53	0.093 ± 0.235	-0.151 ± 0.271
photometric centroid source offset	0.31 ± 0.05	5.89	0.31 ± 0.05	-0.06 ± 0.04

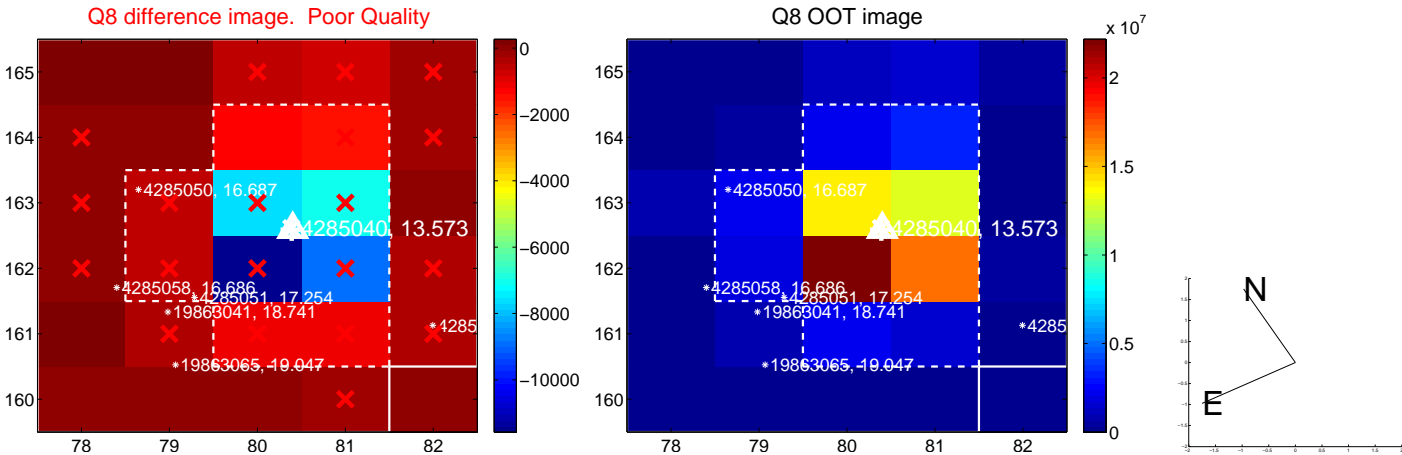
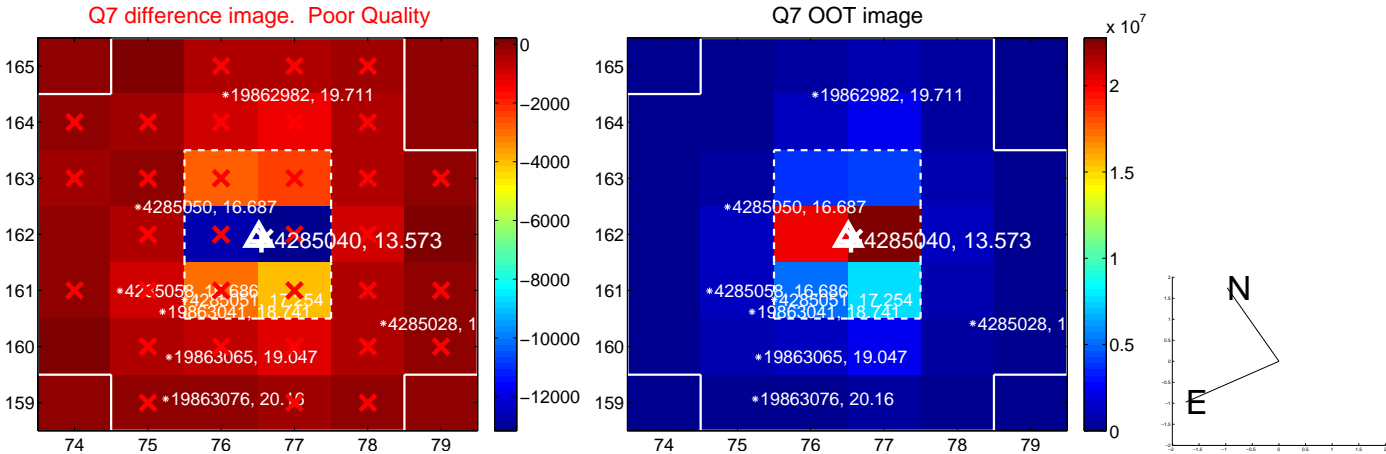
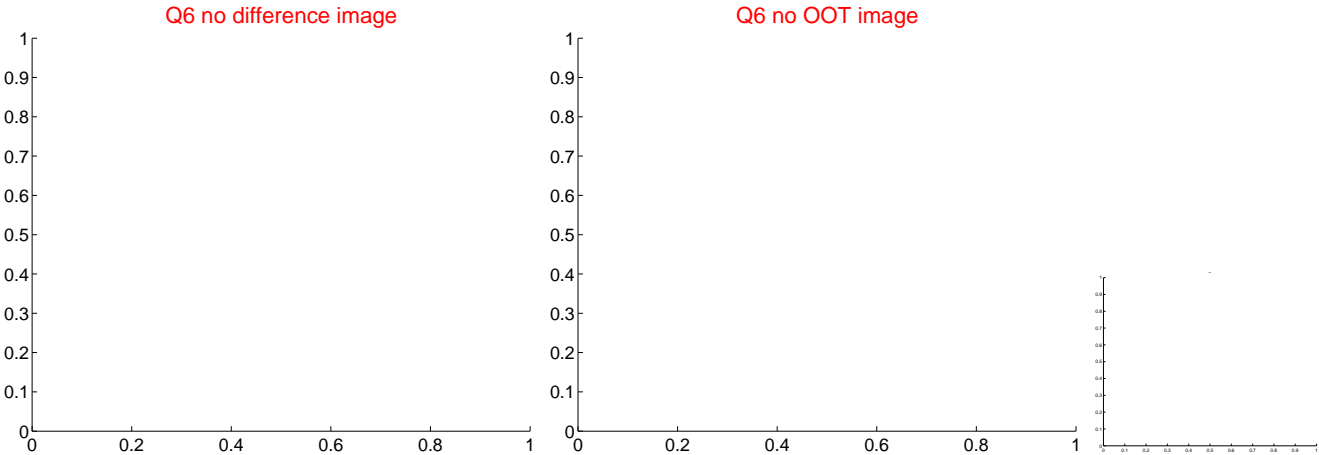
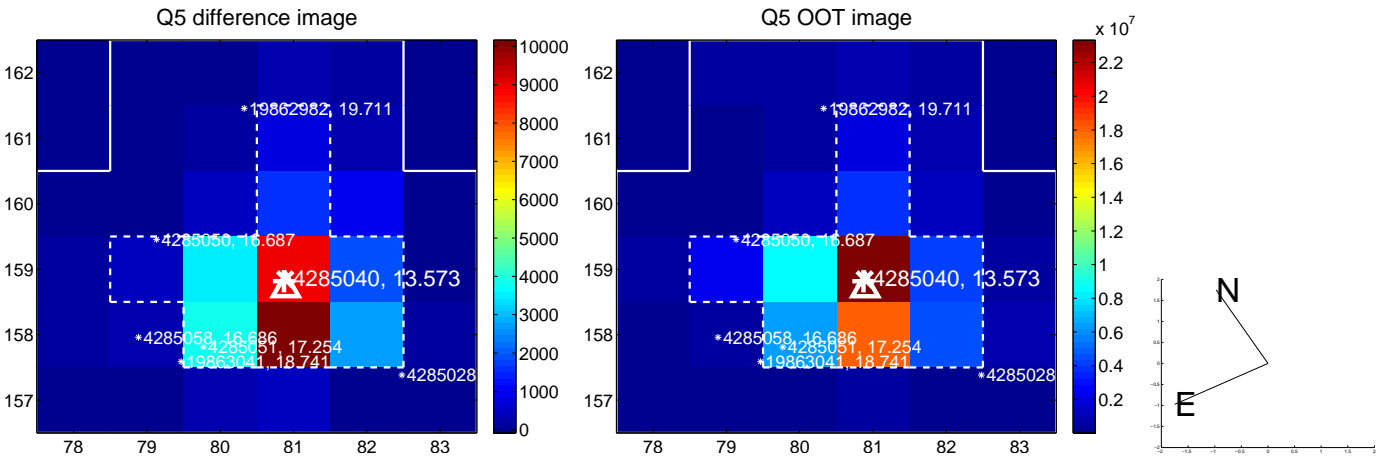


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

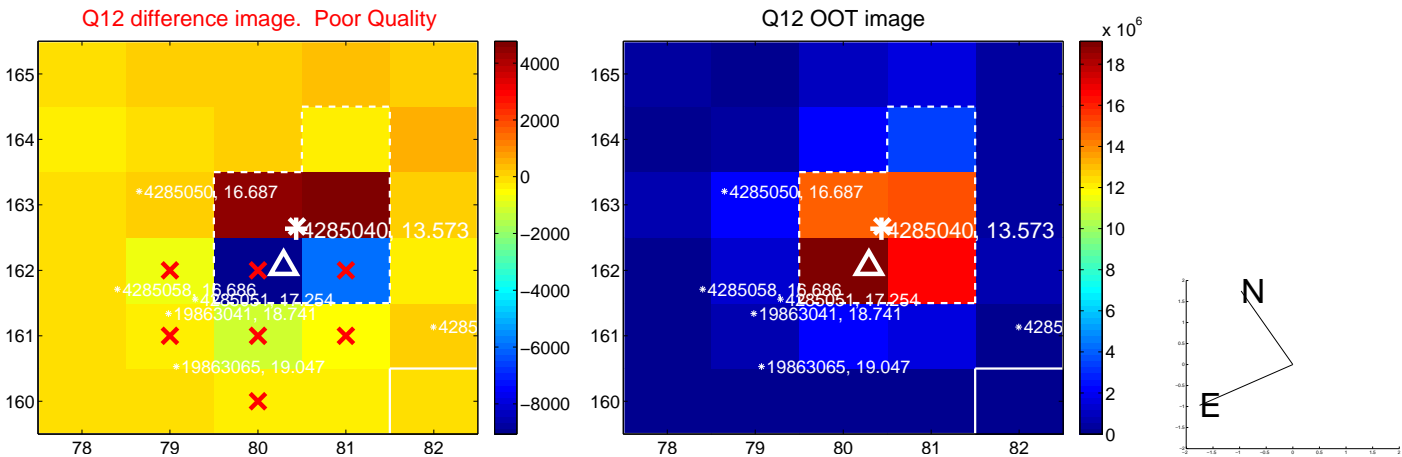
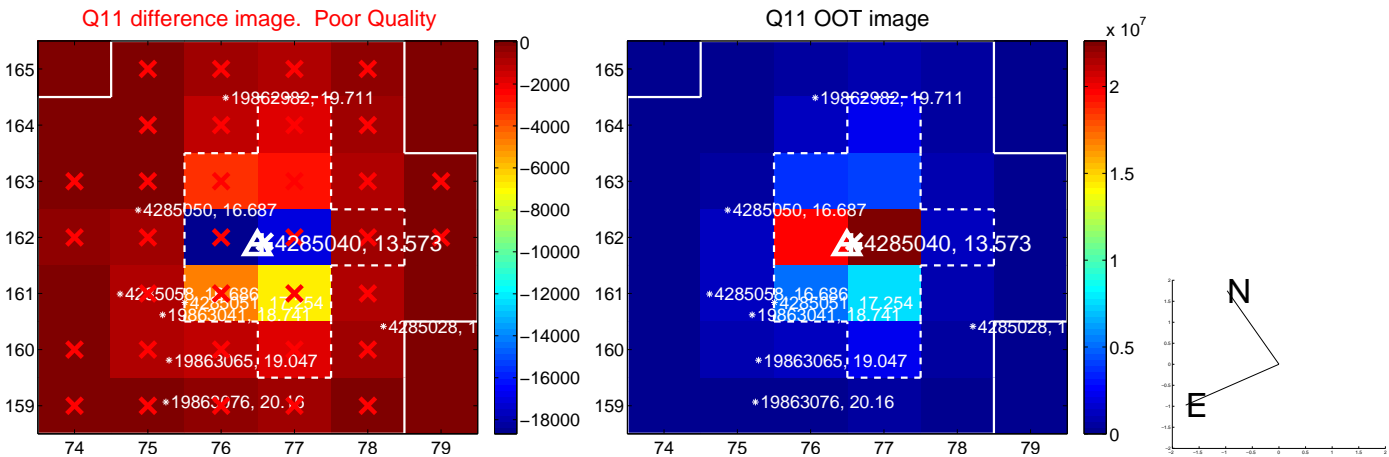
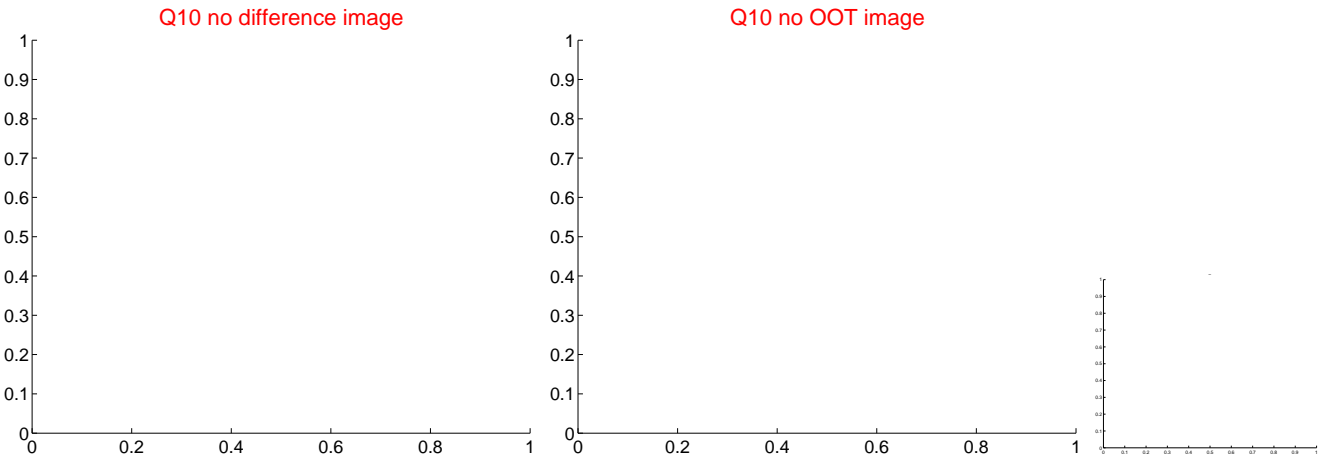
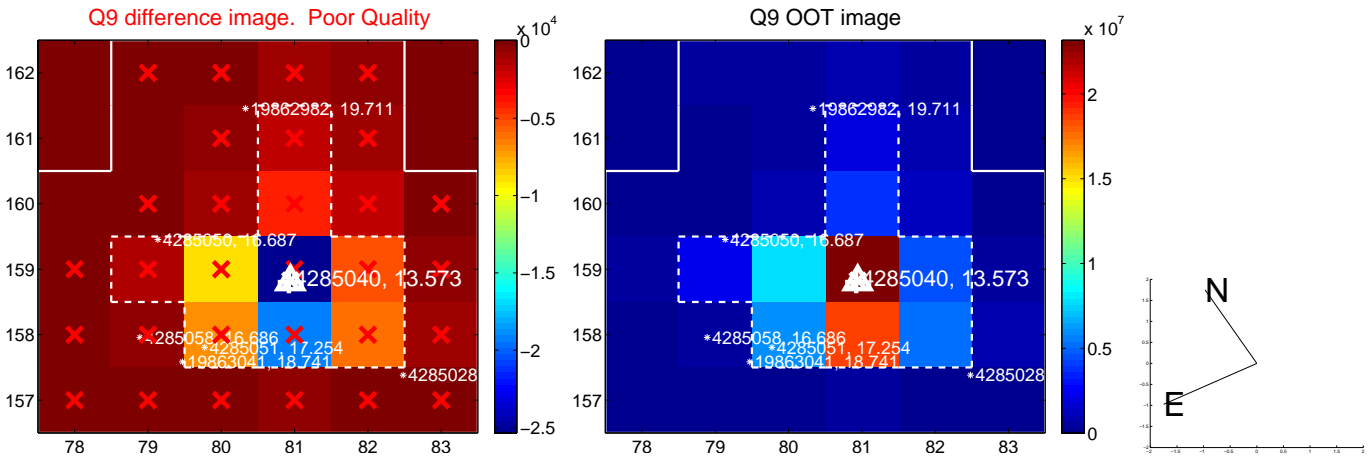
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



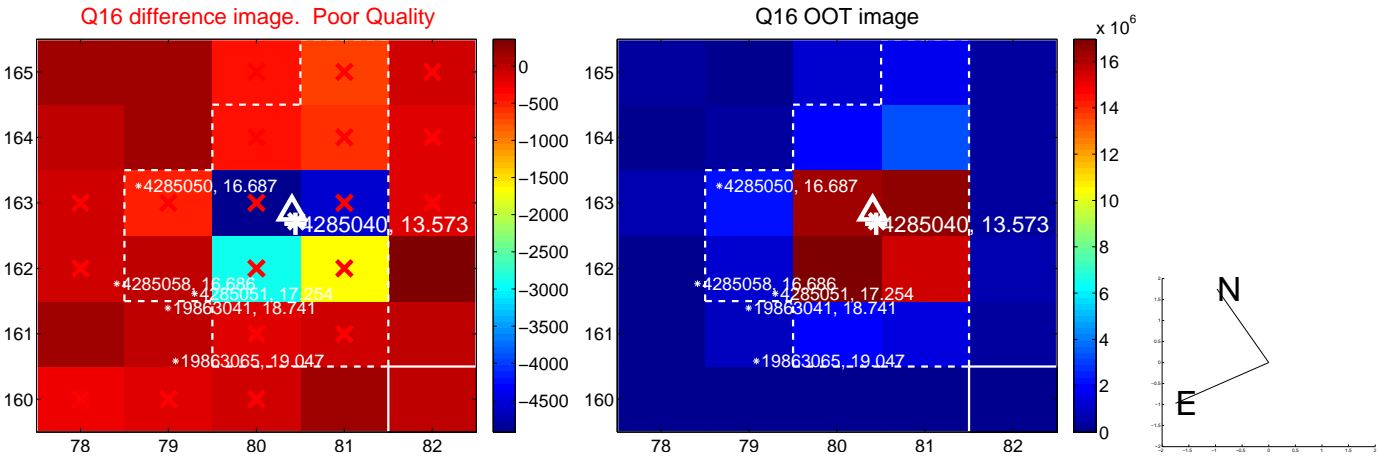
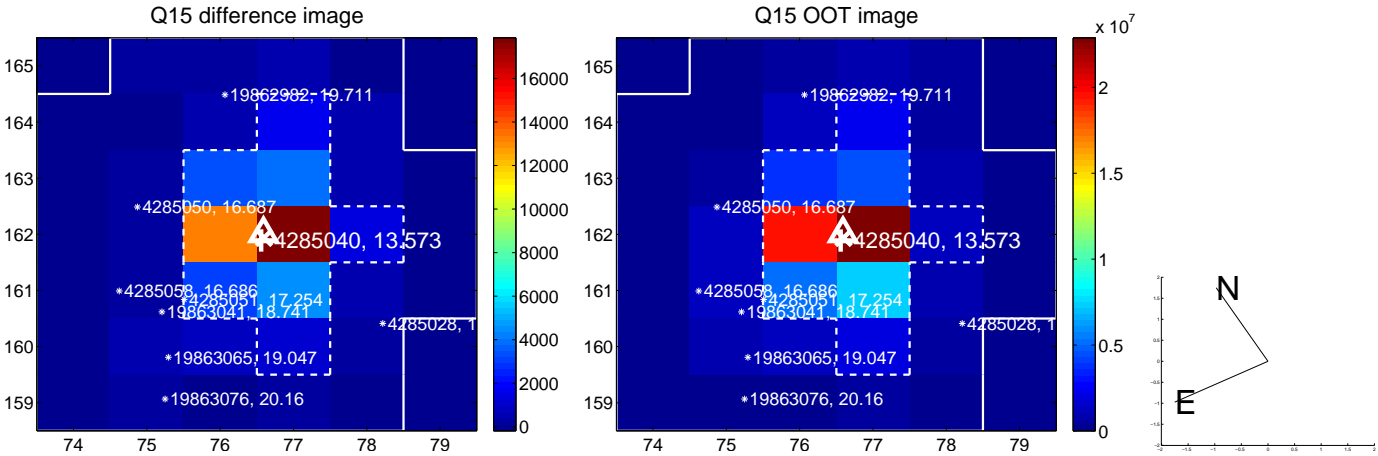
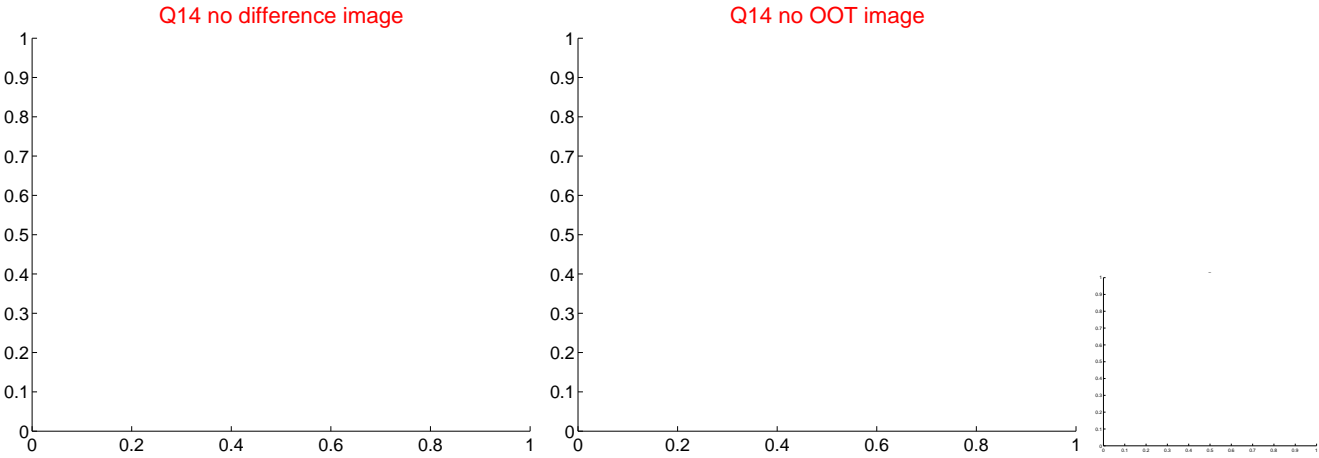
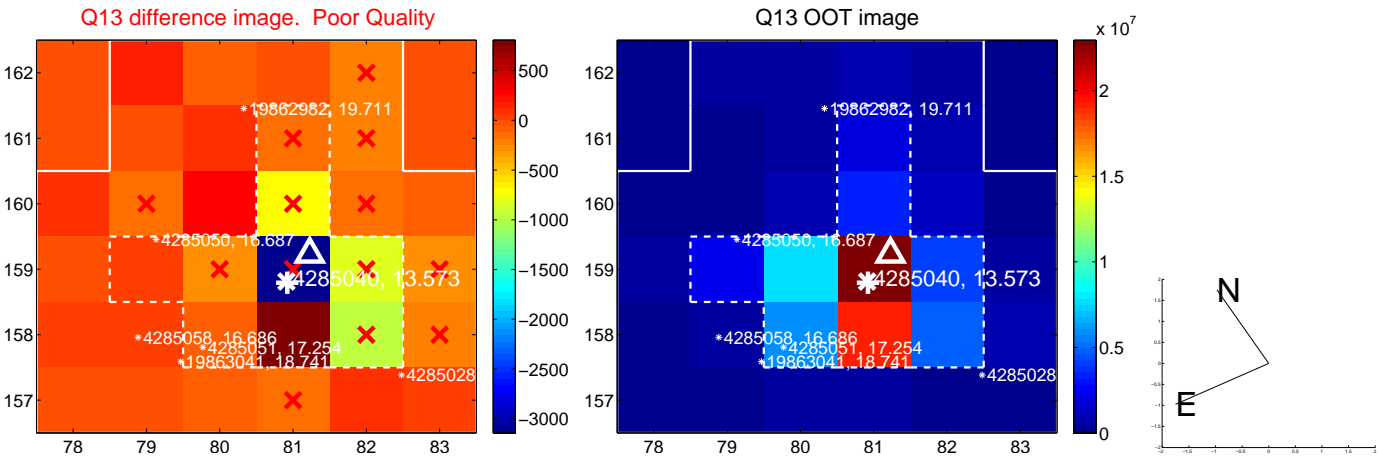
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



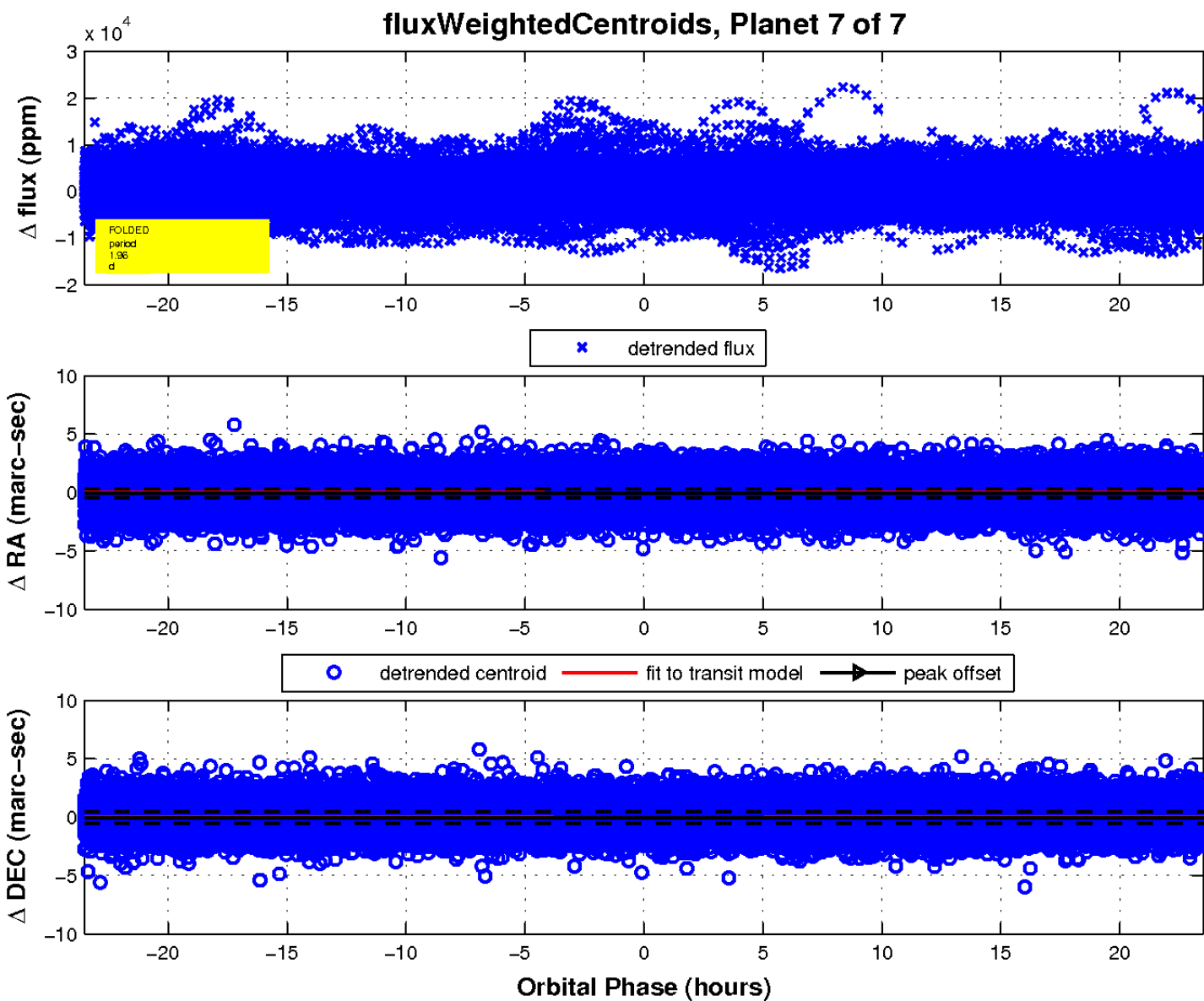
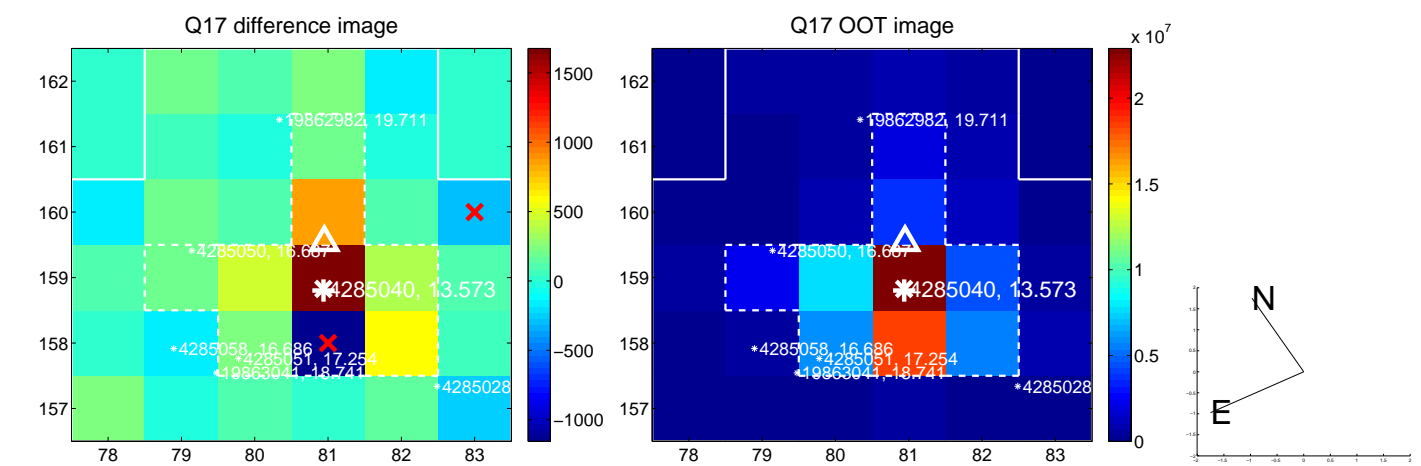
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

