

KIC 010347630

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})
010347630-01	OBS	No	1.514702	132.402570	15.8	9.280	8.1	9.8	1.98	7452	0.84	11644.99
010347630-03	OBS	No	74.503080	174.186218	139.7	14.615	11.3	6.5	1.98	7452	2.65	64.62
010347630-04	OBS	No	69.997324	182.725397	159.2	9.281	7.4	6.6	1.98	7452	2.84	70.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010347630-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010347630-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010347630-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

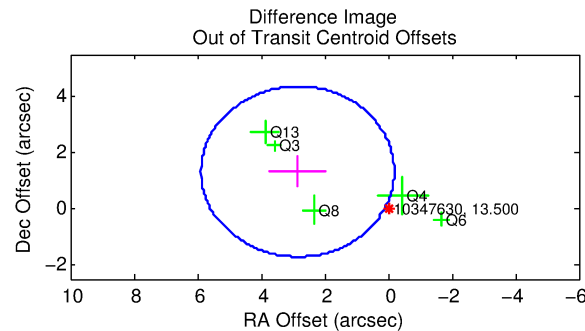
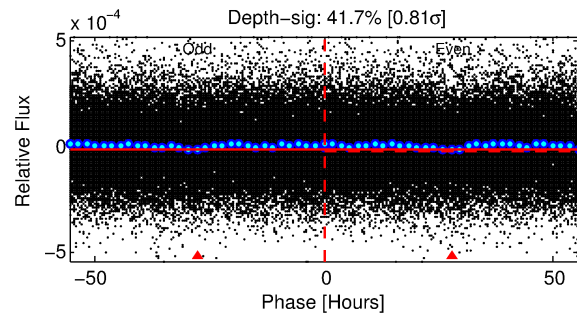
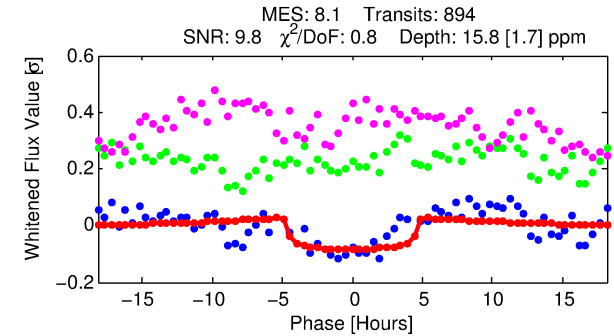
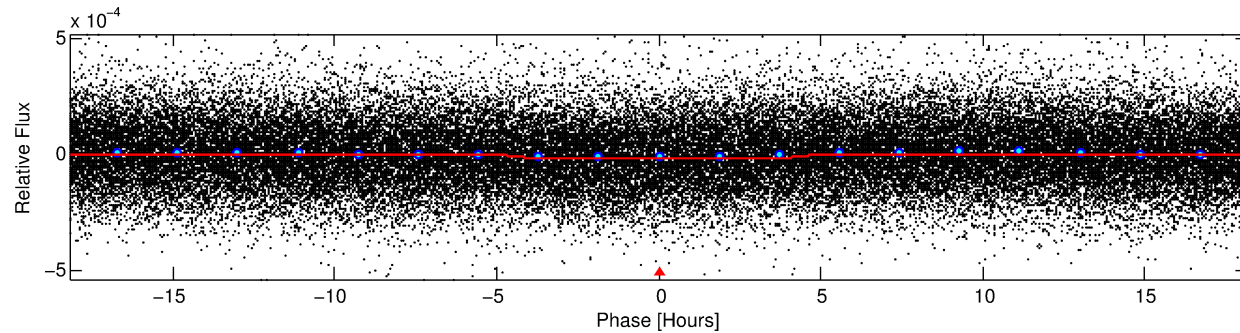
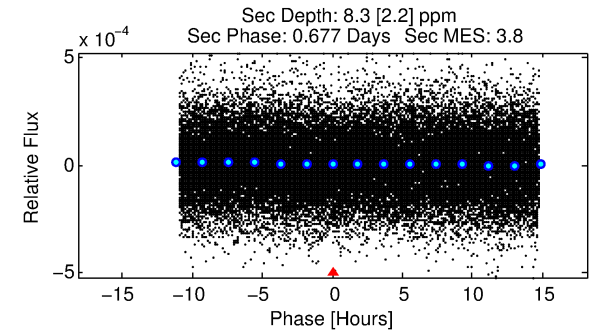
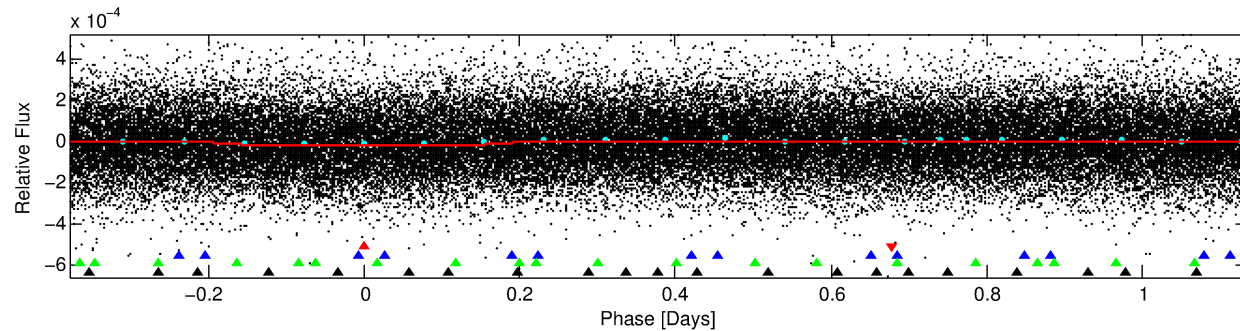
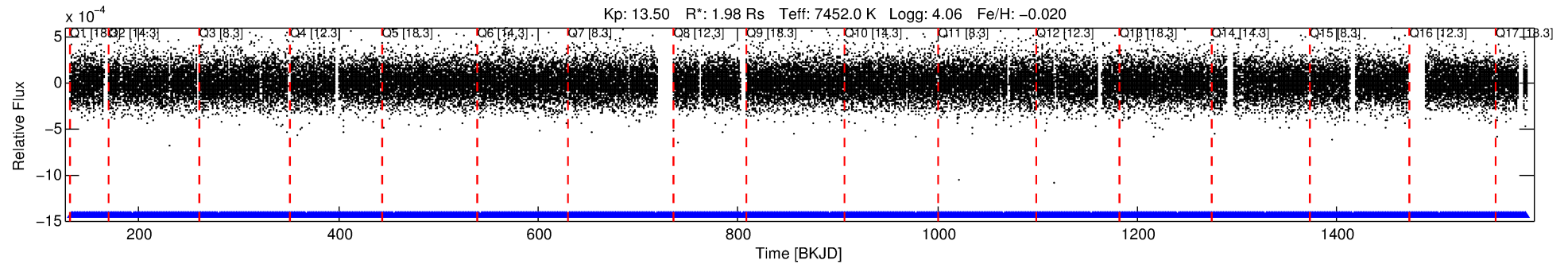
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010347630-01

No Significant Match Found

DV One-Page Summary

KIC: 10347630 Candidate: 1 of 4 Period: 1.515 d



DV Fit Results:

Period = 1.51470 [0.00002] d
Epoch = 132.4026 [0.0069] BKJD
Rp/R* = 0.0039 [0.0014]
a/R* = 1.24 [1.01]
b = 0.67 [1.95]
Seff = 11644.99 [4233.04]
Teq = 2649 [241] K
Rp = 0.84 [0.39] Re
a = 0.0305 [0.0069] AU
Ag = 6.06 [5.14] [0.98σ]
Teffp = 6425 [1299] K [2.86σ]

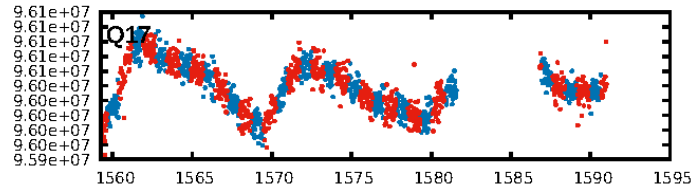
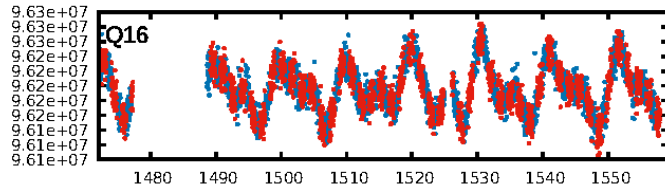
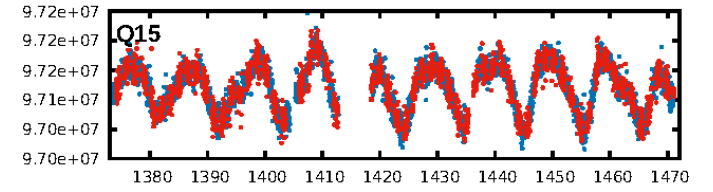
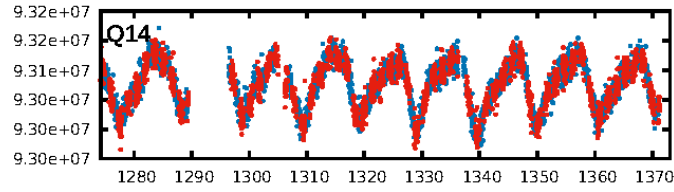
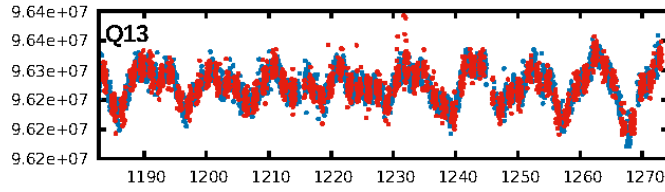
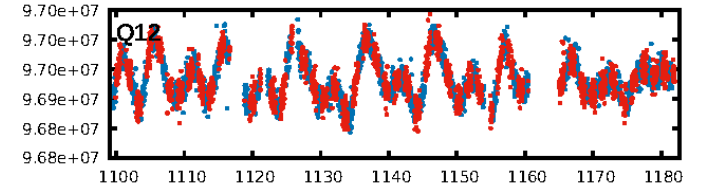
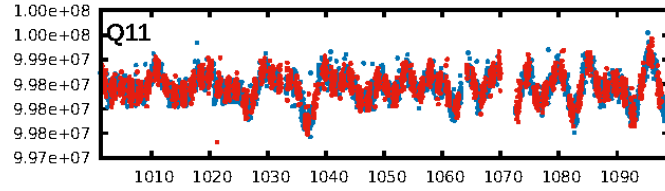
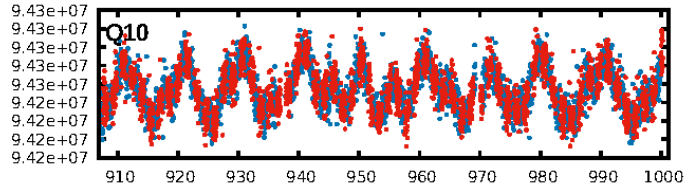
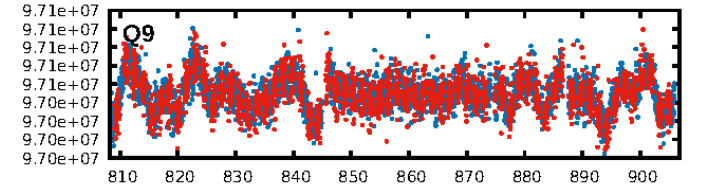
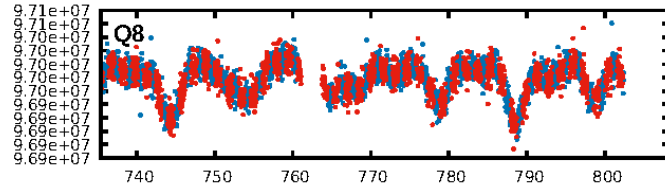
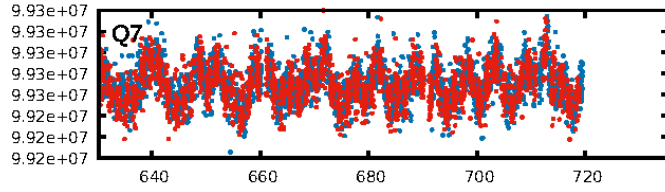
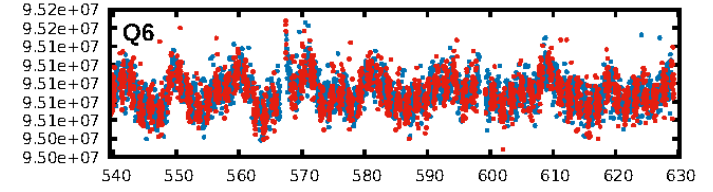
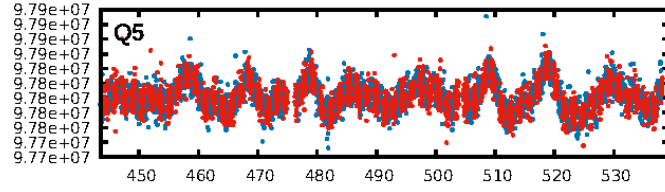
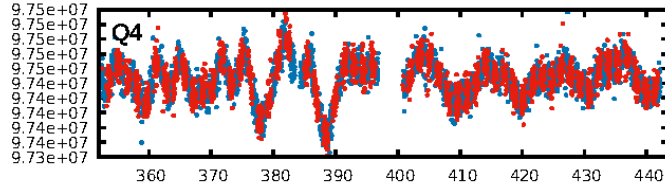
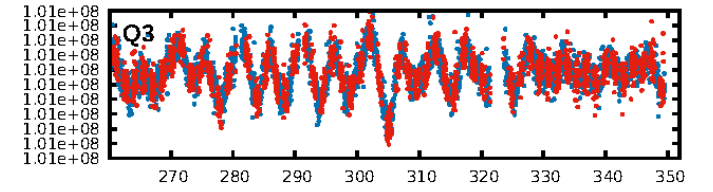
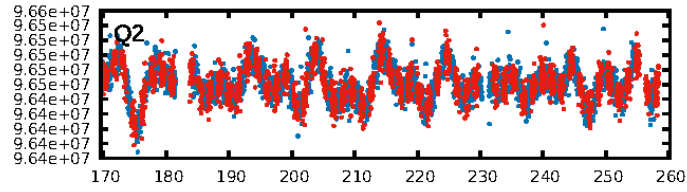
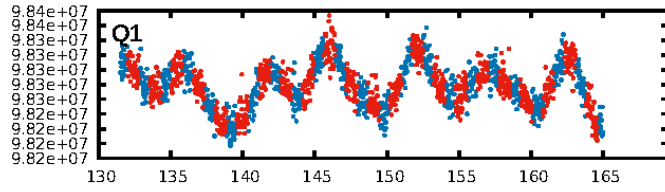
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [125.23σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.64e-10
RollingBand-fgt: 1.00 [854/854]
GhostDiagnostic-chr: 1.939
Centroid-sig: 17.4%
Centroid-so: 1.243 arcsec [1.26σ]
OotOffset-rm: 3.142 arcsec [3.11σ]
OotOffset-st: 1/1/2/1 [5]
KicOffset-rm: 3.001 arcsec [2.49σ]
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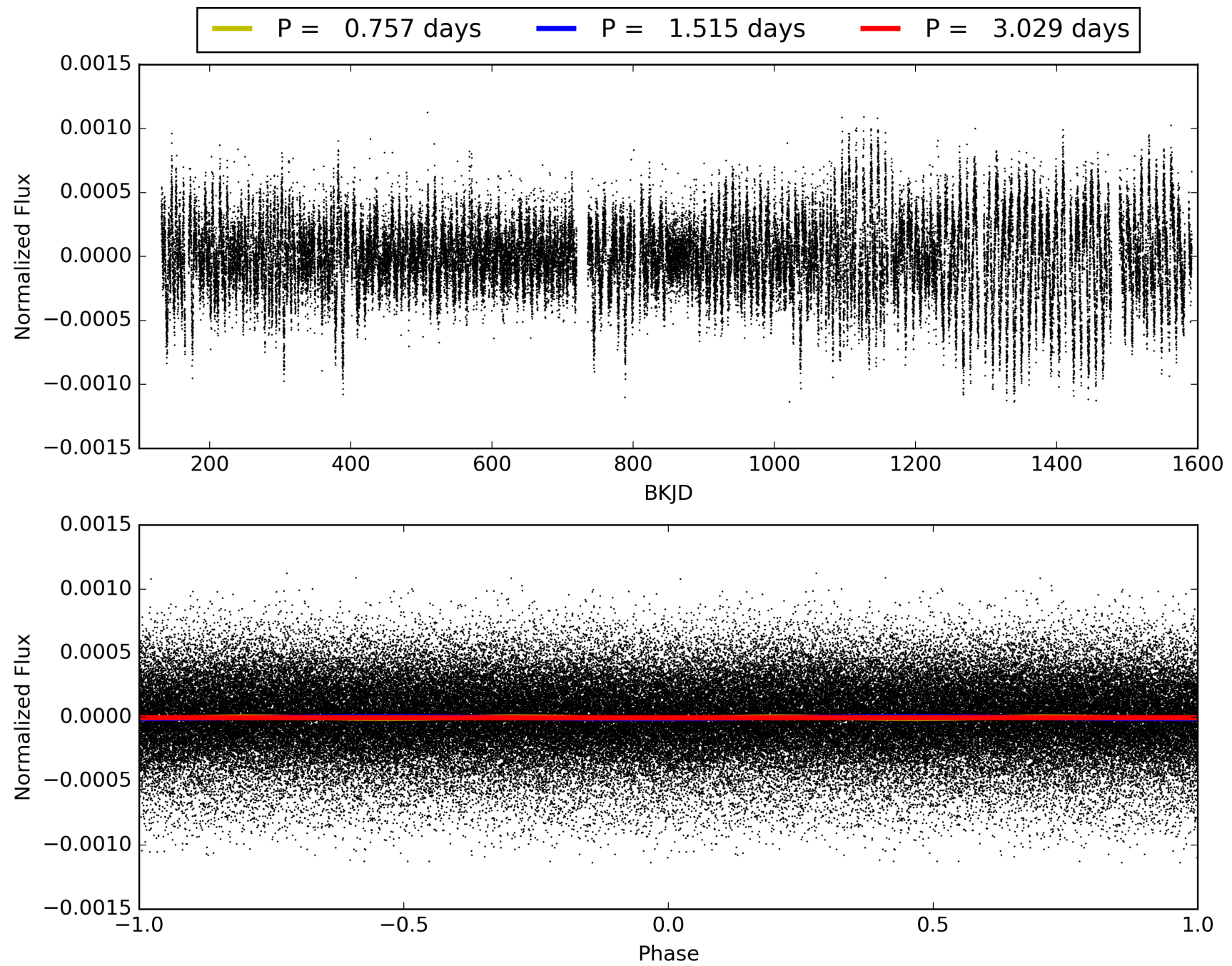
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010347630-01, PDC Light Curves

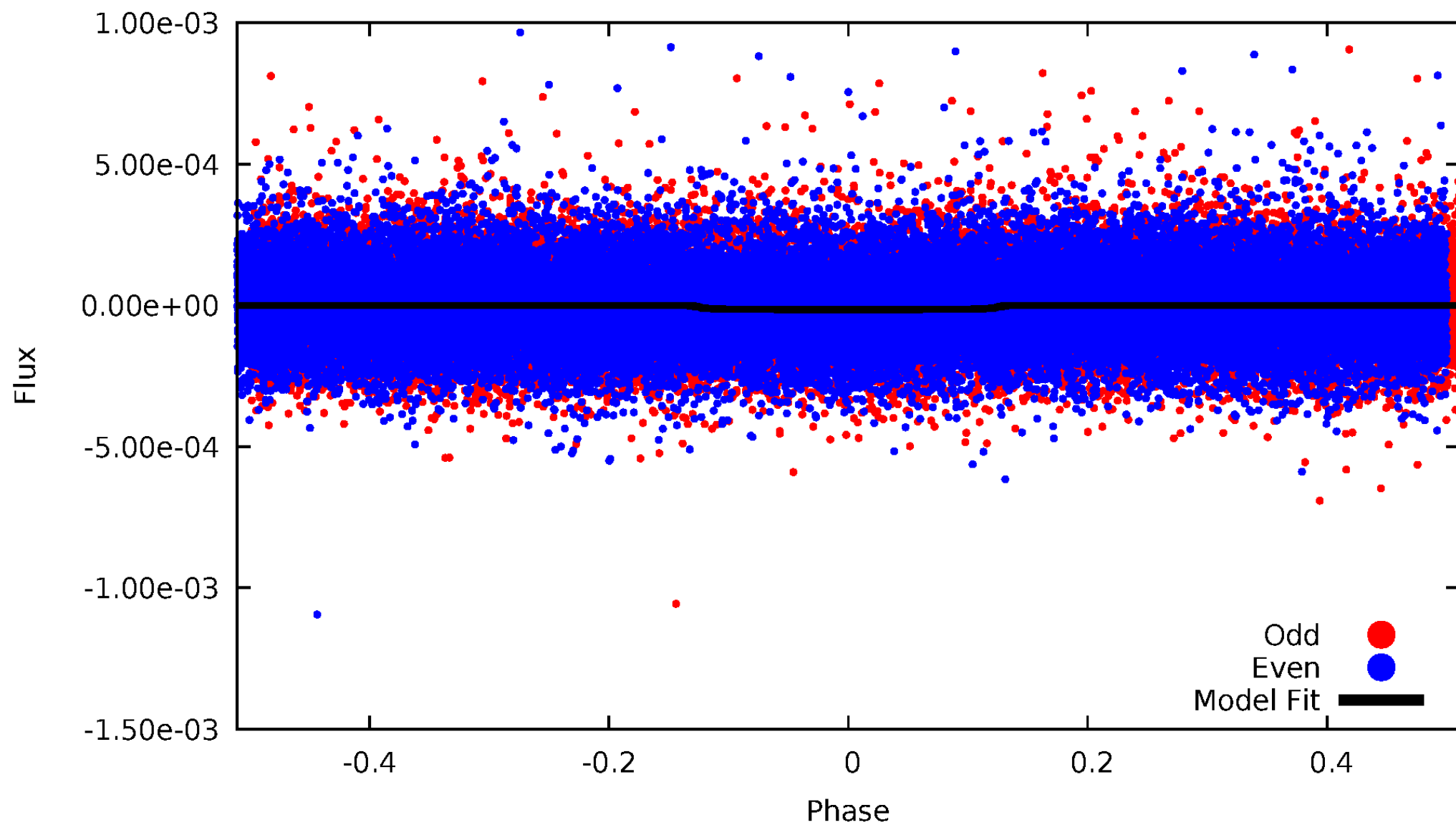


TCE 010347630-01



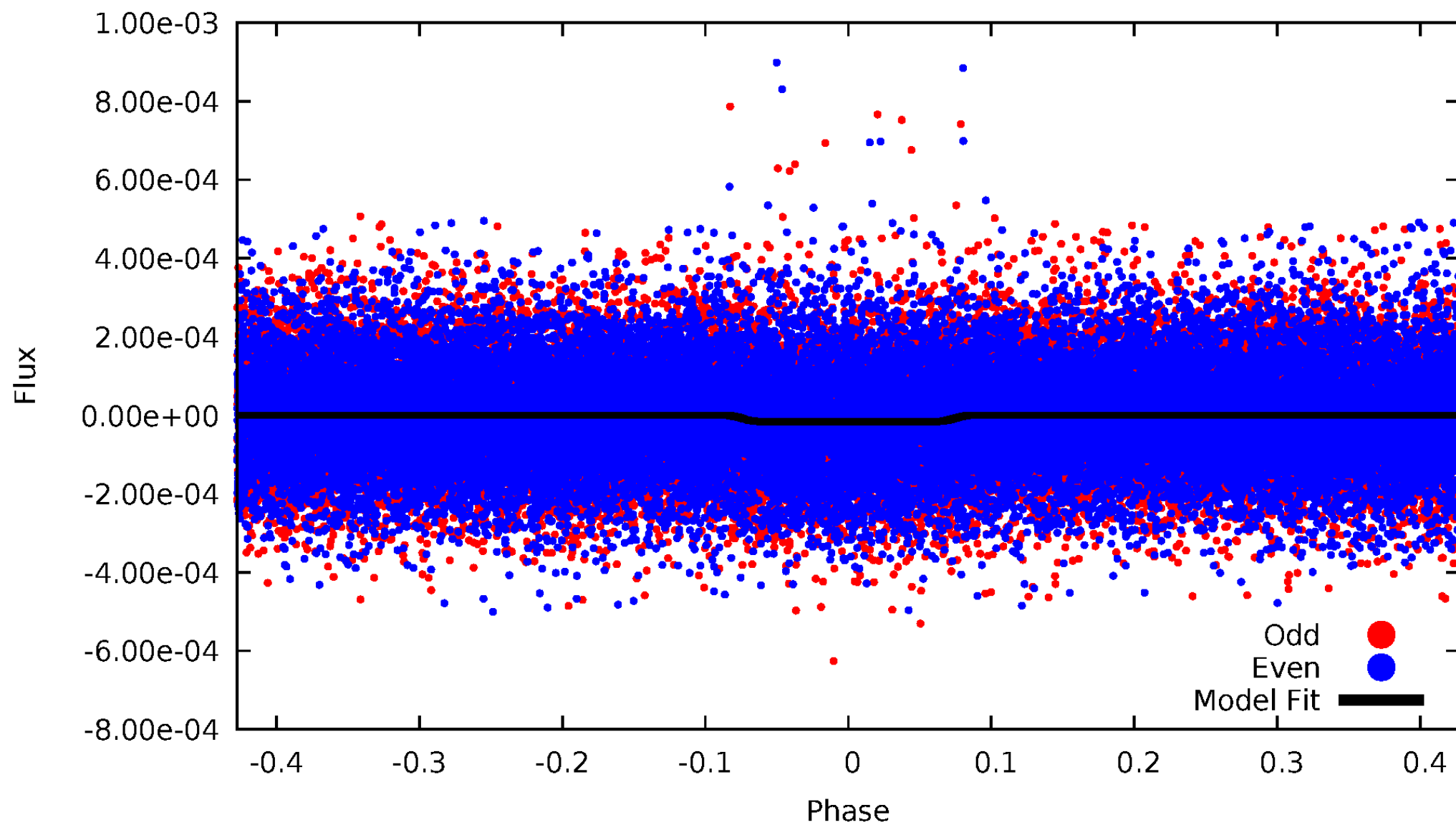
DV Odd/Even

TCE 010347630-01

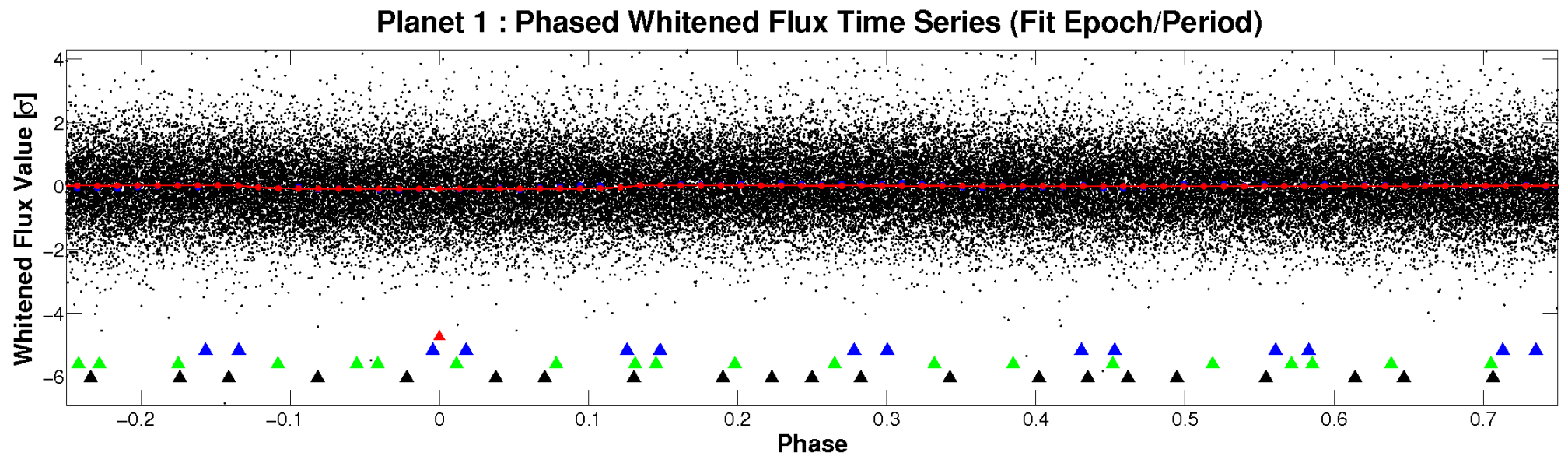
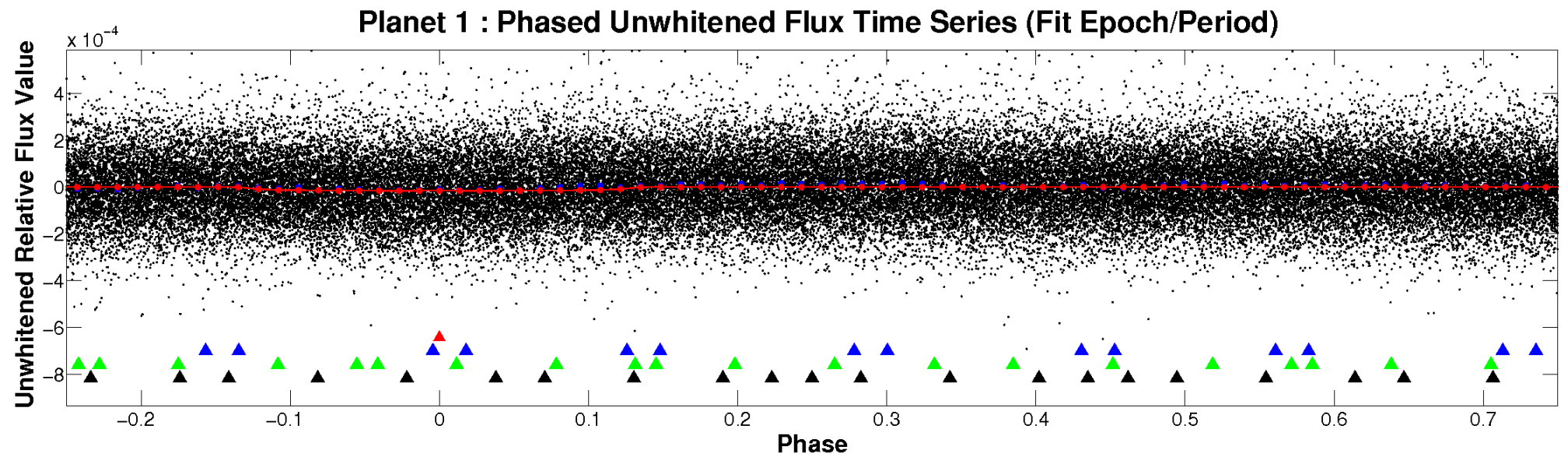


ALT Odd/Even

TCE 010347630-01

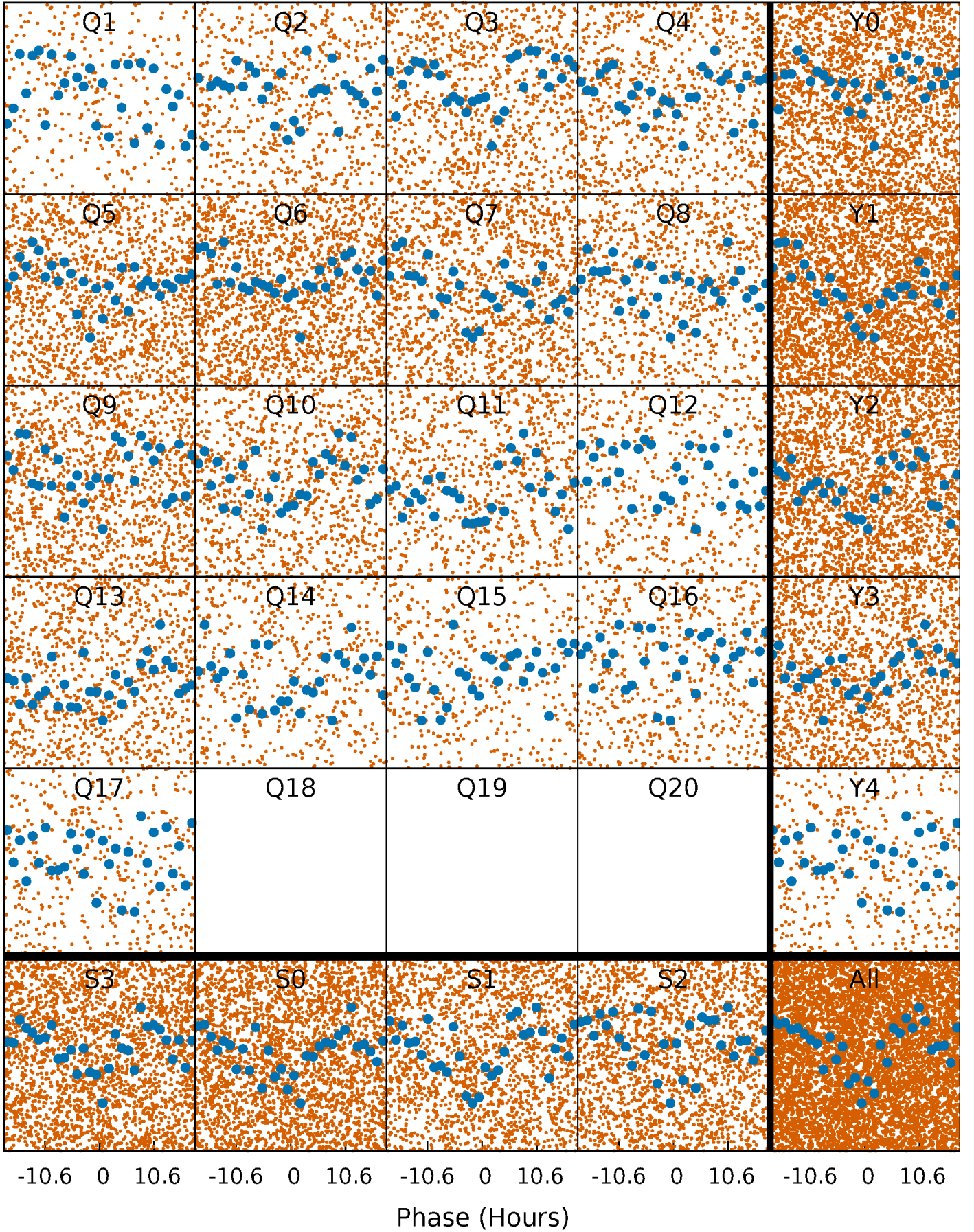


Non-Whitened Vs. Whitened Light Curve



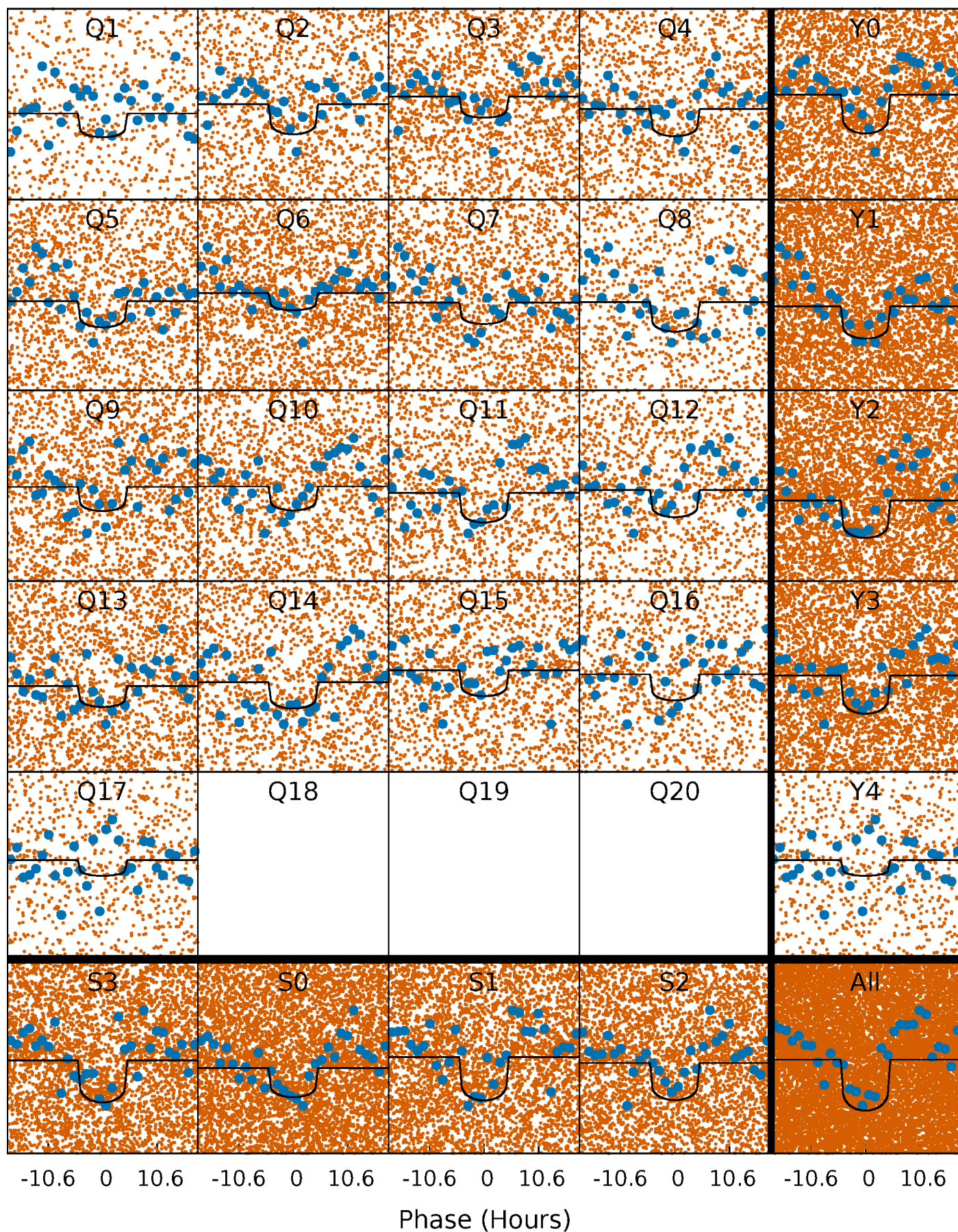
PDC Quarter-Phased Transit Curves

TCE 010347630-01 P= 1.514702 Days $T_0=132.402570$ (BKJD)



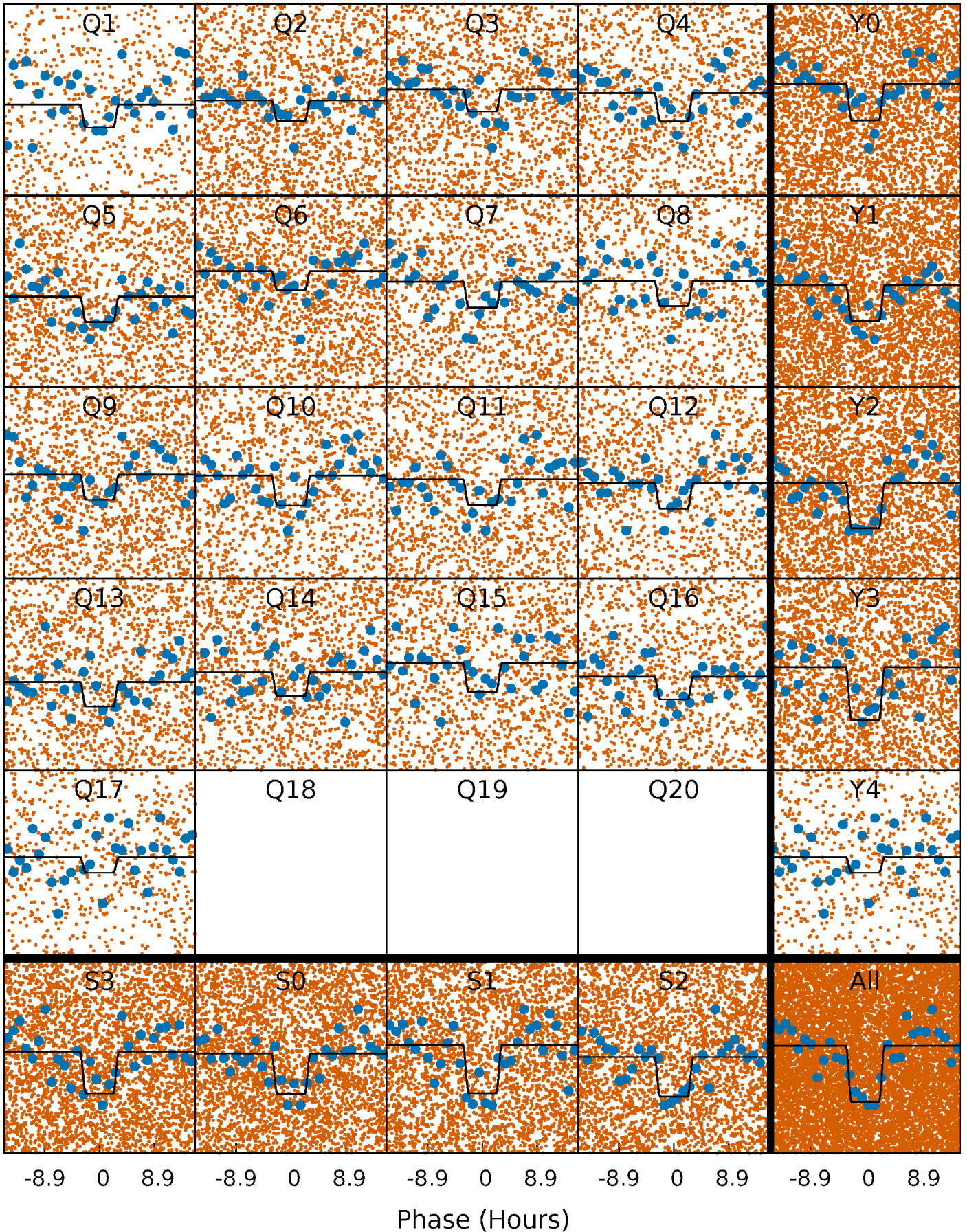
DV Quarter-Phased Transit Curves

TCE 010347630-01 P= 1.514702 Days $T_0=132.402570$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

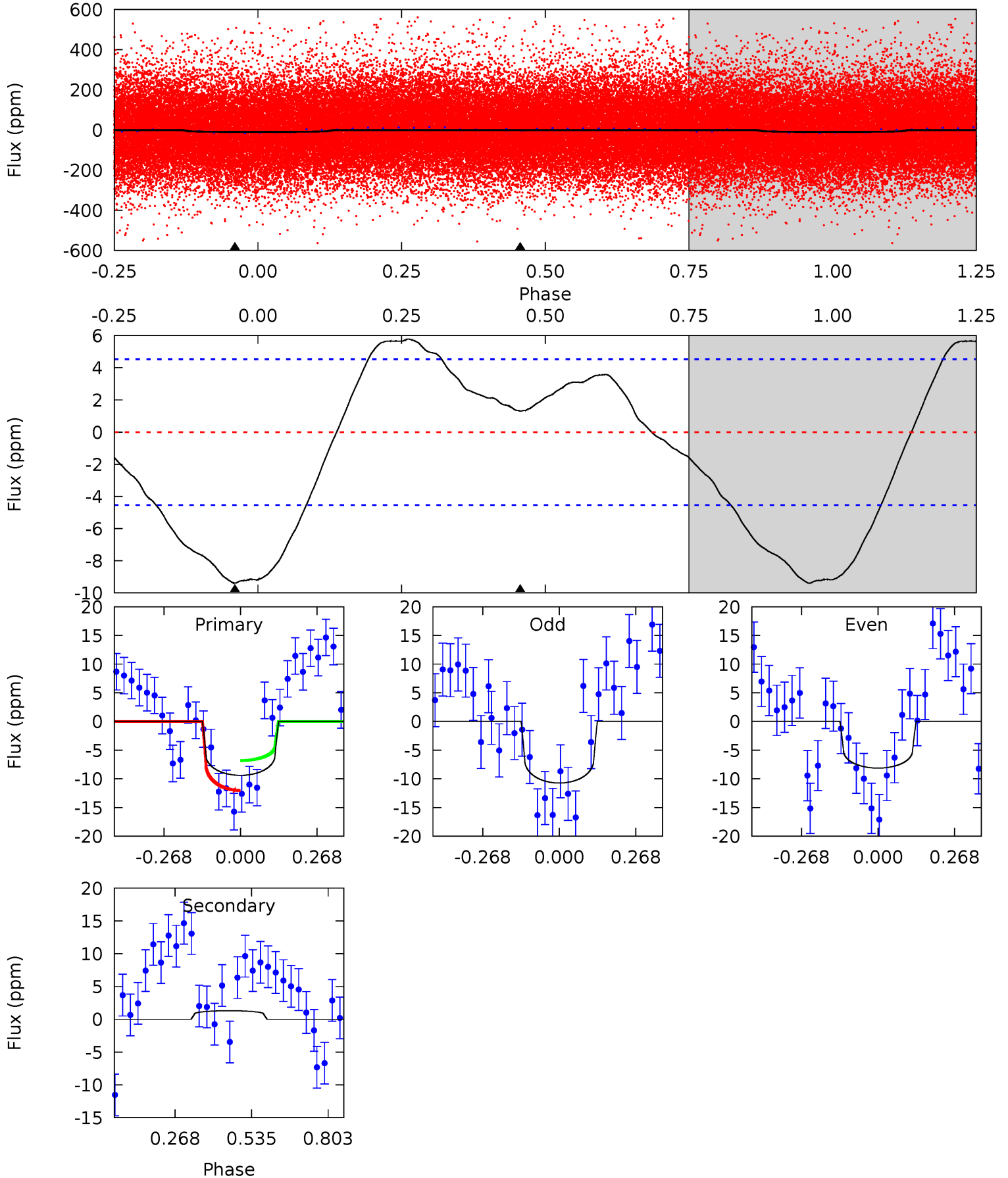
TCE 010347630-01 P= 1.514626 Days $T_0=132.419967$ (BKJD)



DV Model-Shift Uniqueness Test

010347630-01, P = 1.514702 Days, E = 130.887868 Days

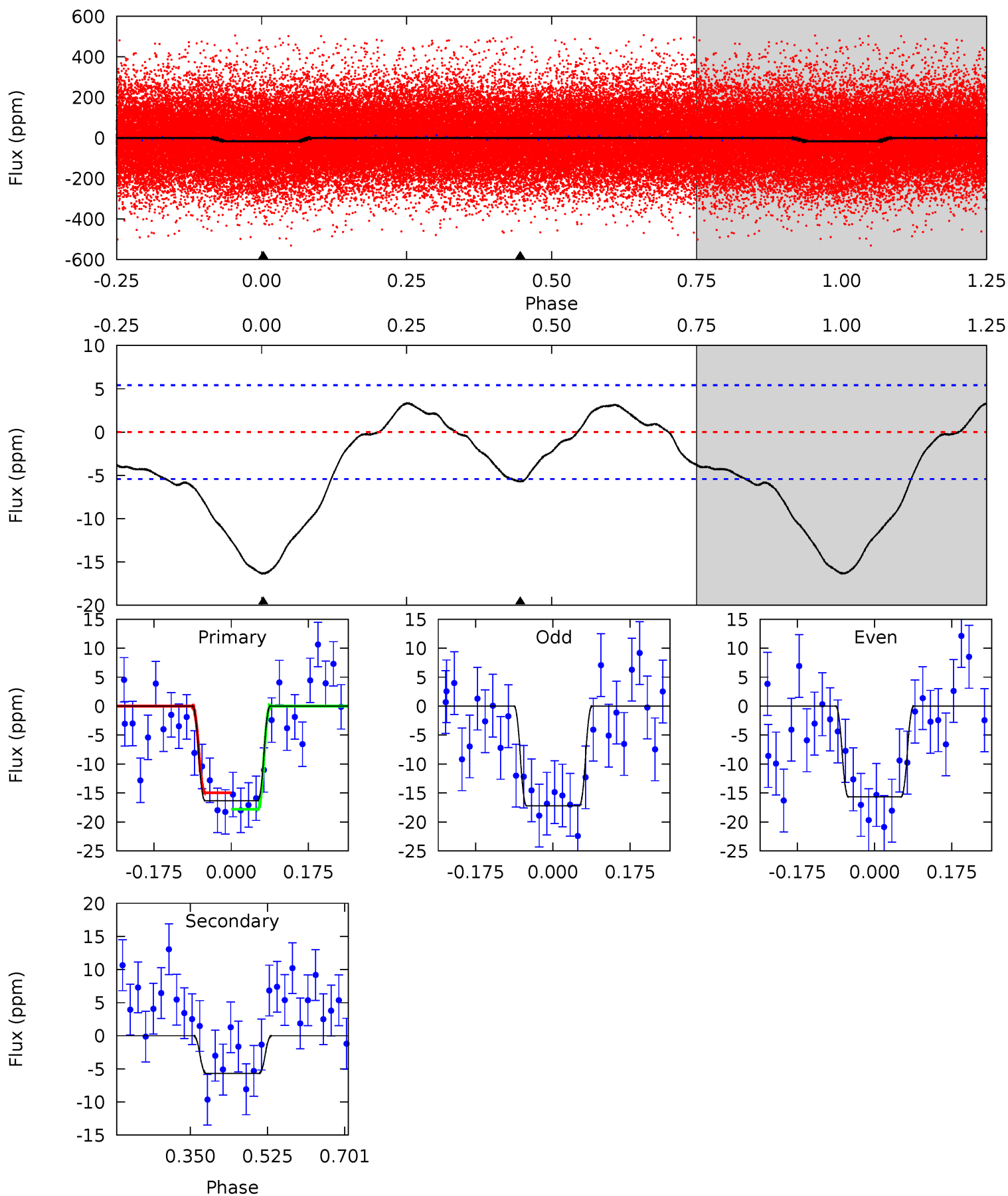
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.01	-1.25	0	0	4.35	1.11	2.80	9.01	9.01	-1.25	-1.25	1.27	0.95	0.38	2.54



Alt Model-Shift Uniqueness Test

010347630-01, P = 1.514626 Days, E = 130.905341 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	4.66	0	0	4.45	1.36	2.23	13.4	13.4	4.66	4.66	0.63	0.93	0.17	1.17



Stellar Parameters For KIC 010347630

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7452^{+207}_{-337}	$4.062^{+0.165}_{-0.165}$	$-0.020^{+0.200}_{-0.350}$	$1.981^{+0.558}_{-0.508}$	$1.650^{+0.189}_{-0.284}$	$0.299^{+0.263}_{-0.138}$
	+3%/-5%	+4%/-4%	+1000%/-1750%	+28%/-26%	+11%/-17%	+88%/-46%
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 010347630-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	1 ± 1	$0.84^{+0.36}_{-0.30}$	3683^{+301}_{-270}	-4364^{+687}_{-972}	$-0.836^{+0.689}_{-1.907}$
Alt.	-6 ± 1	$0.85^{+0.36}_{-0.32}$	3699^{+286}_{-289}	5520^{+1608}_{-828}	$3.725^{+6.077}_{-1.933}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

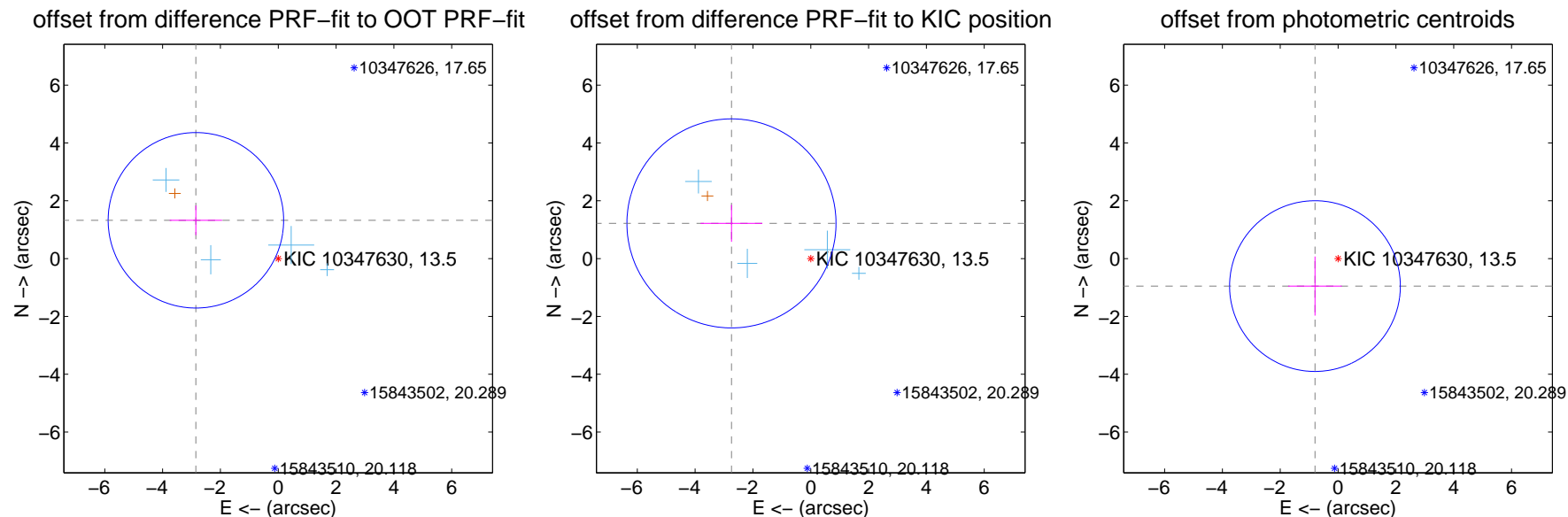
DV Centroid Data

Supplemental centroid analysis for 010347630-01. Kepler magnitude: 13.50. Transit SNR 9.79

There are 4 quarters with good PRF difference image offsets

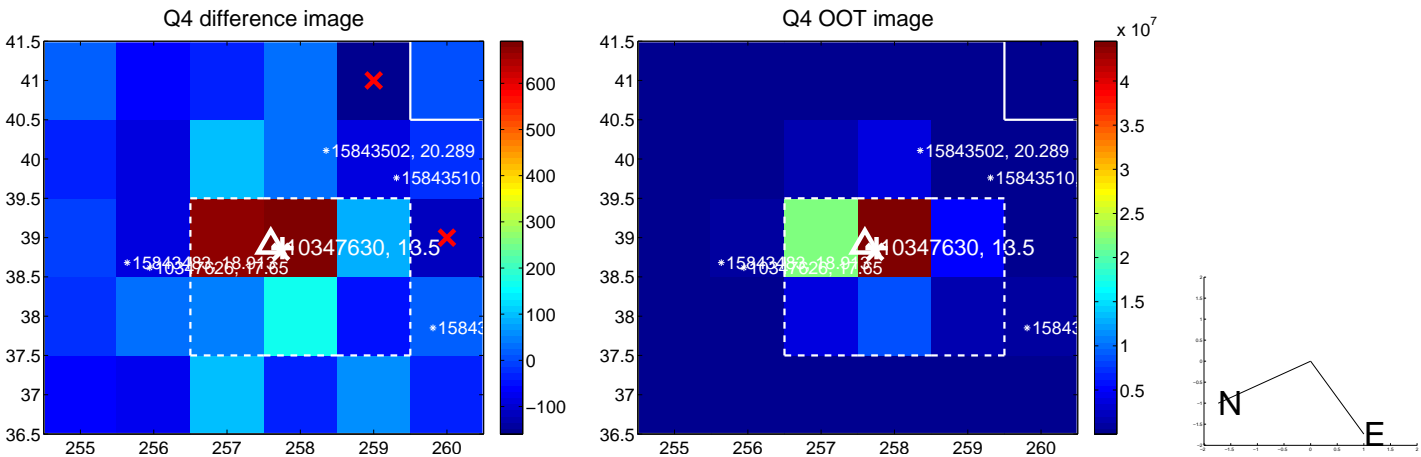
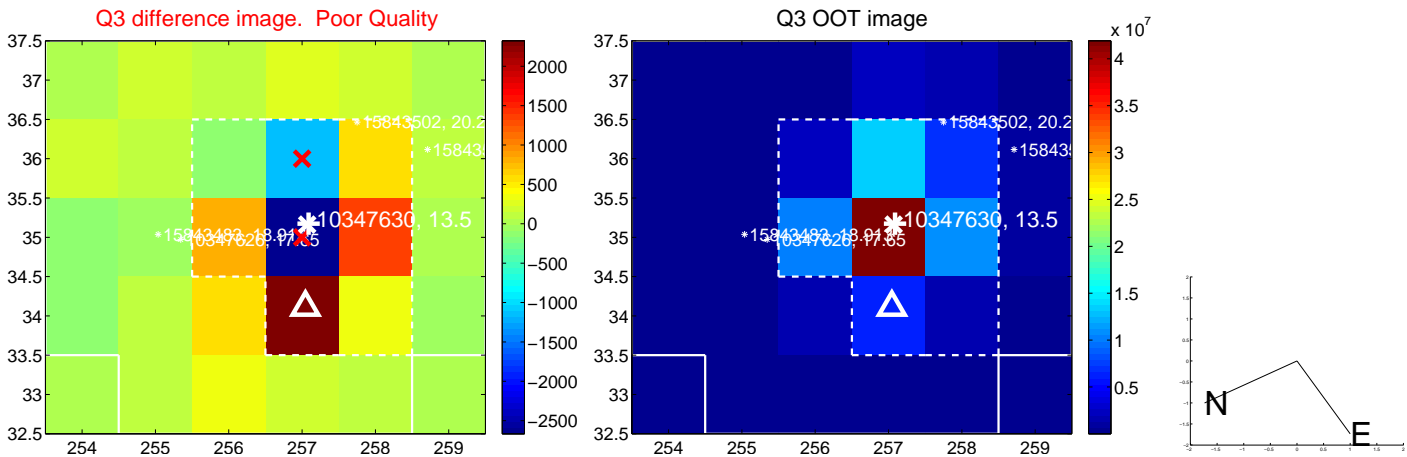
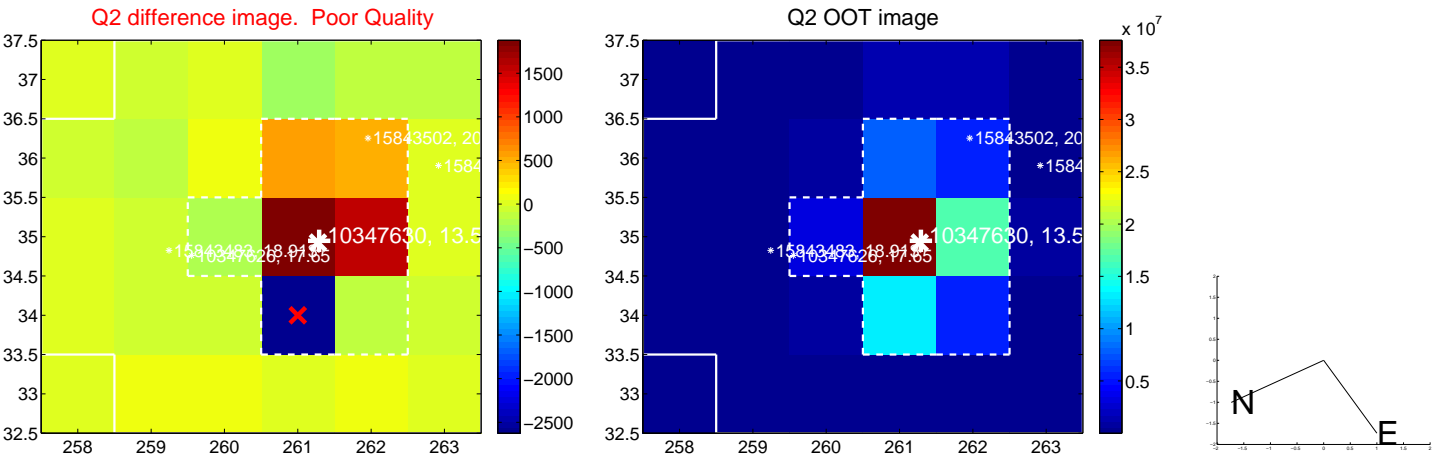
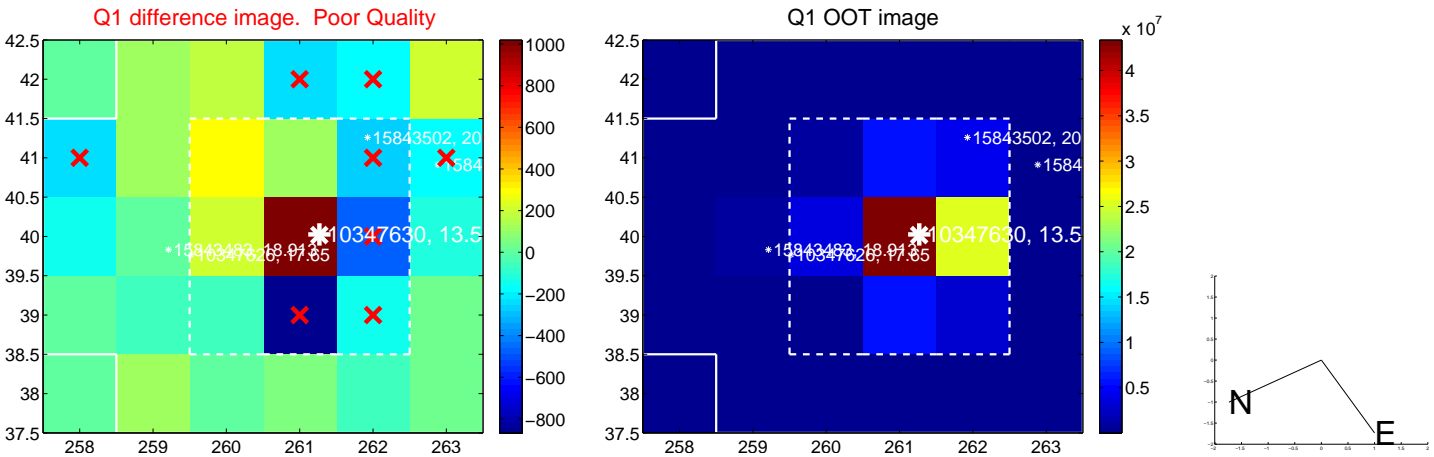
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.142 ± 1.012	3.11	2.849 ± 0.906	1.324 ± 0.513
PRF-fit source offset from KIC position	3.001 ± 1.205	2.49	2.743 ± 1.069	1.218 ± 0.638
photometric centroid source offset	1.24 ± 0.98	1.26	0.80 ± 0.93	-0.95 ± 1.02

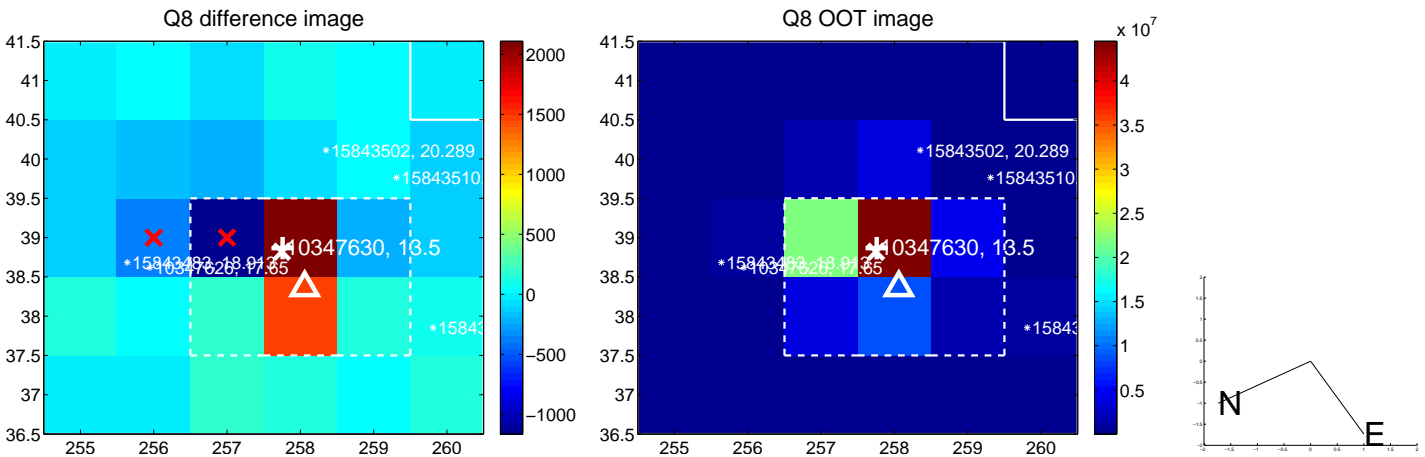
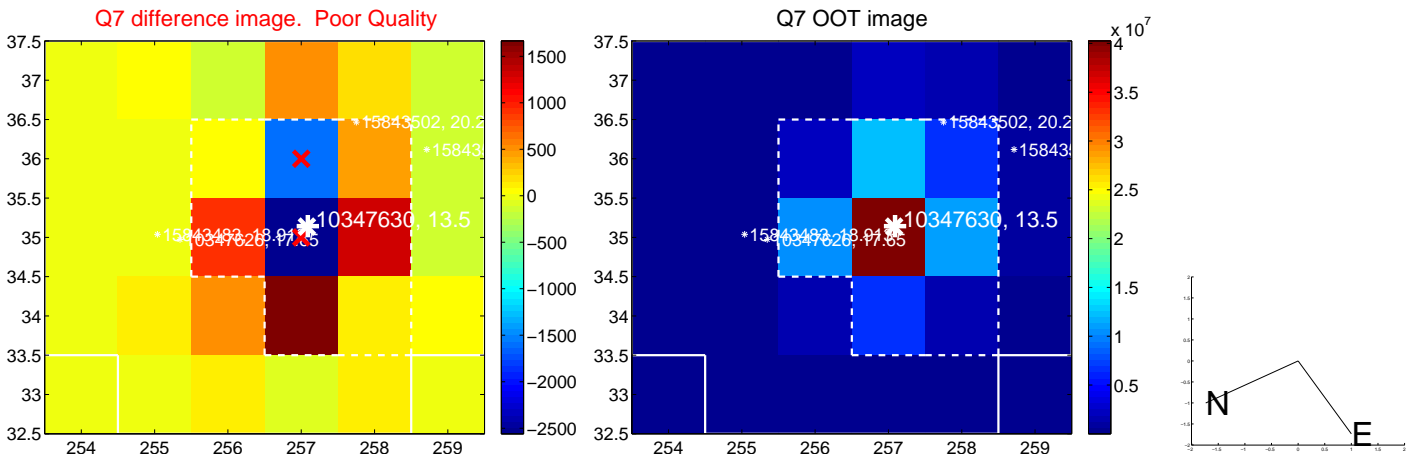
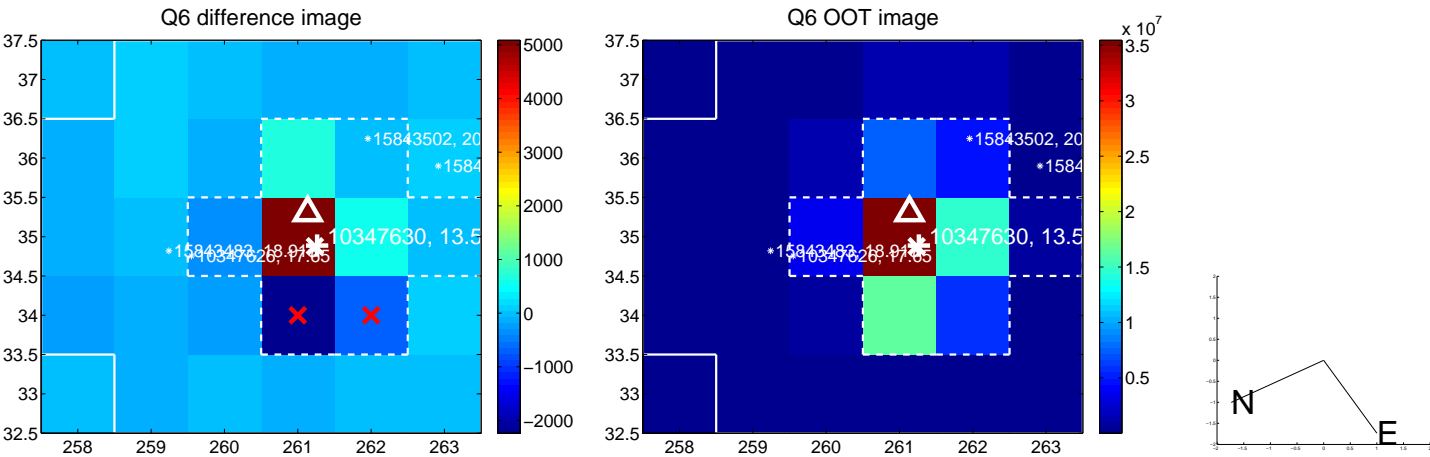
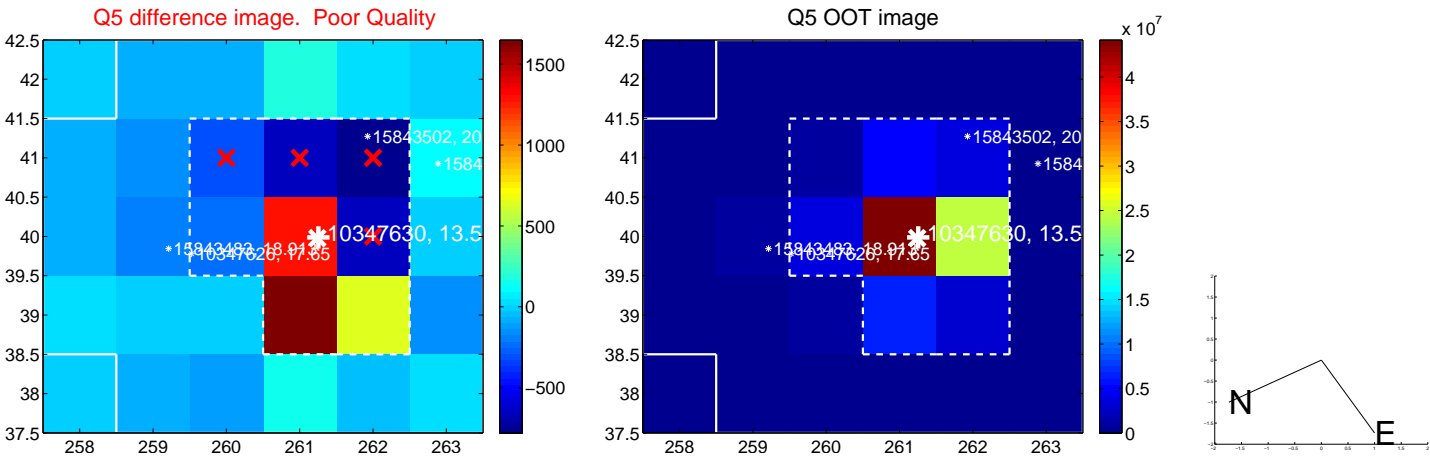


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

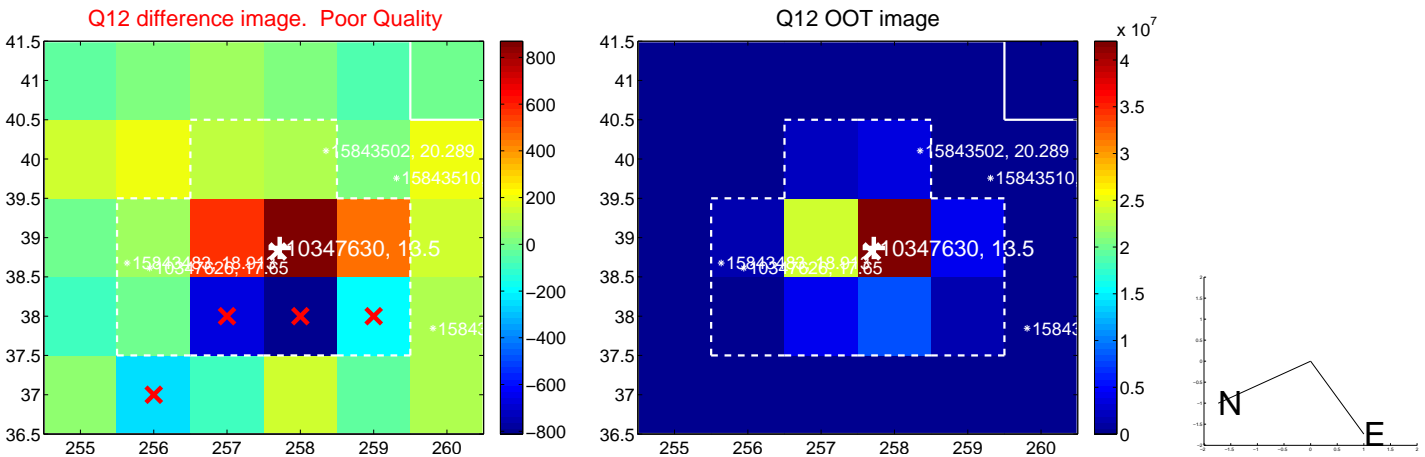
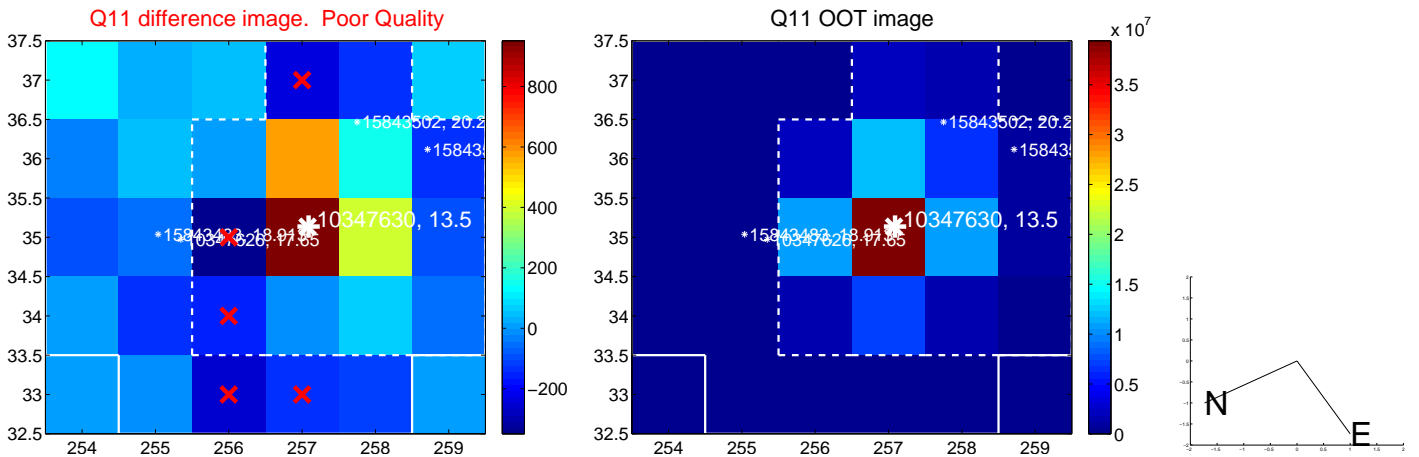
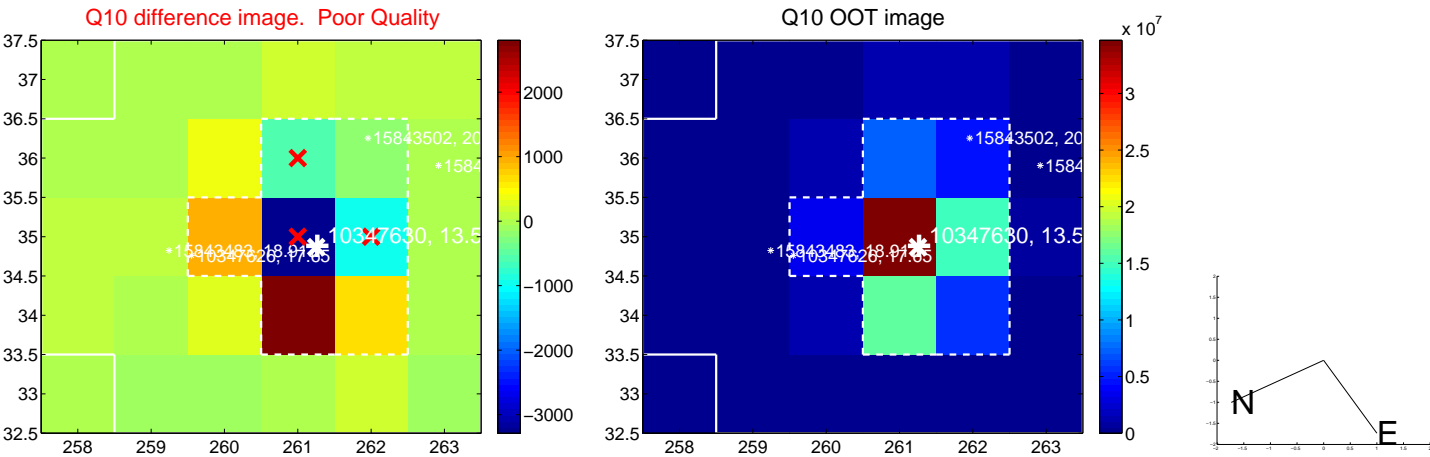
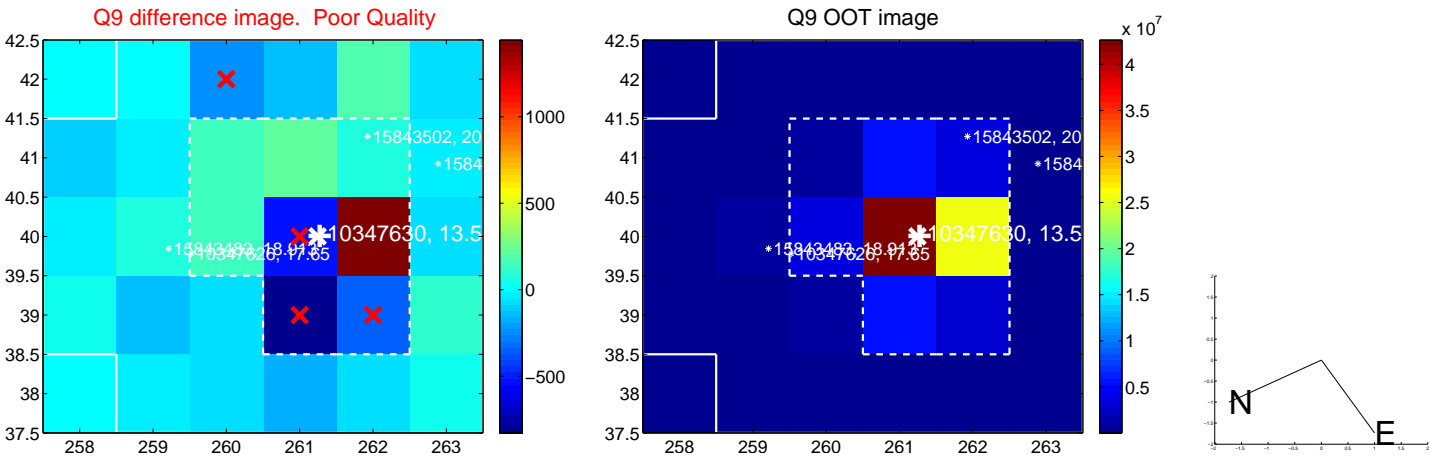
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



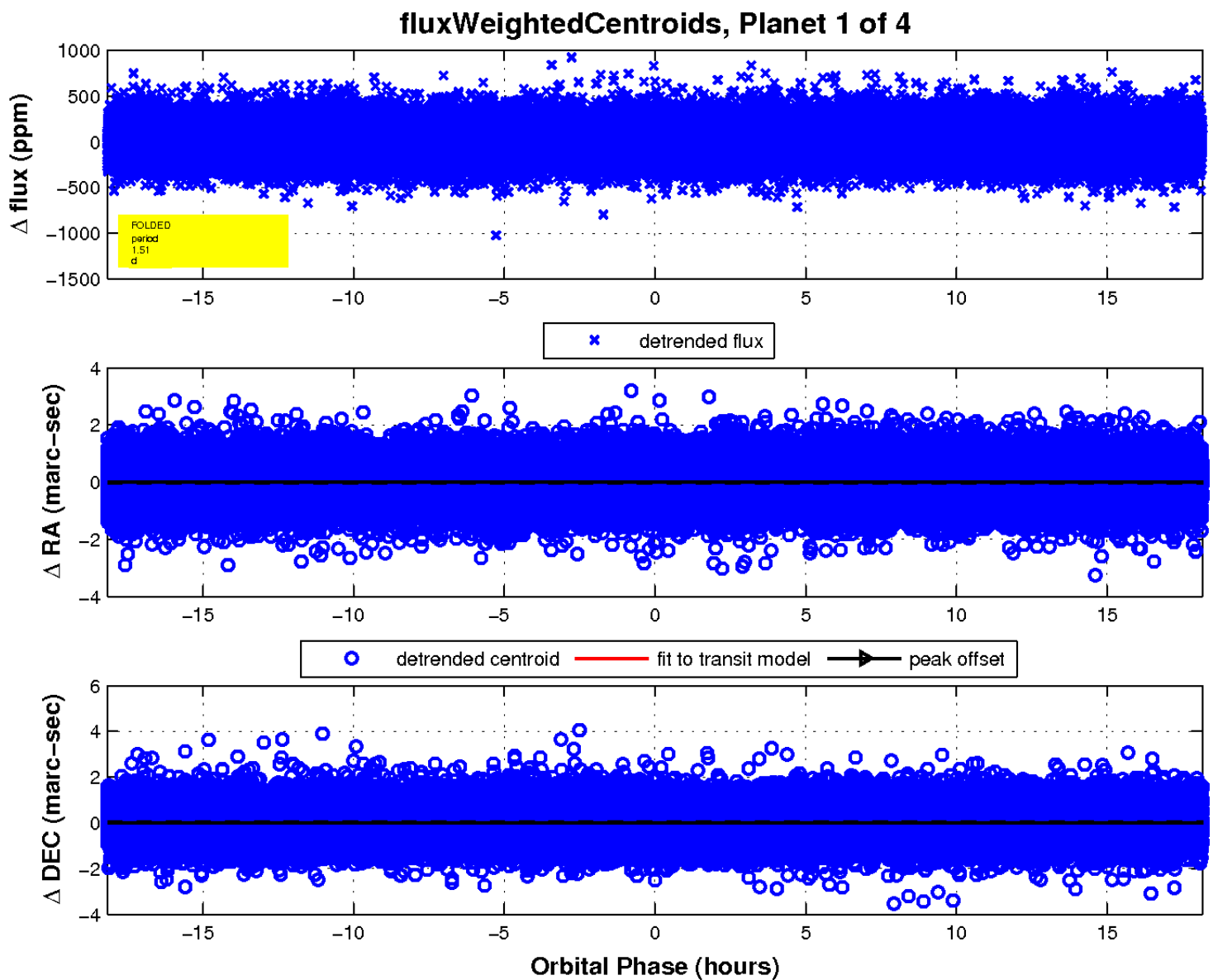
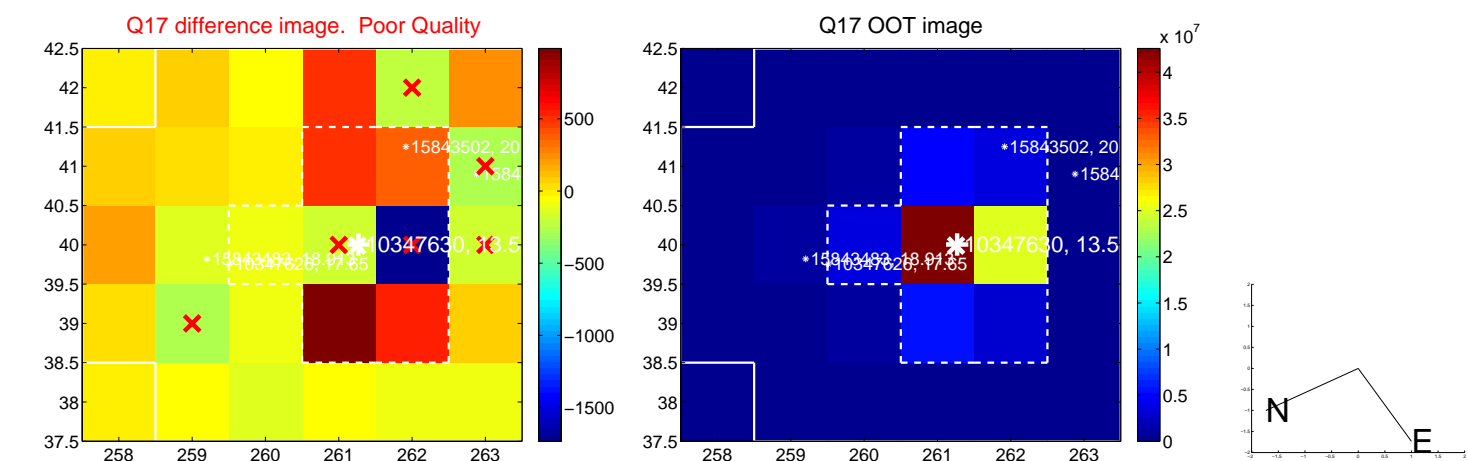
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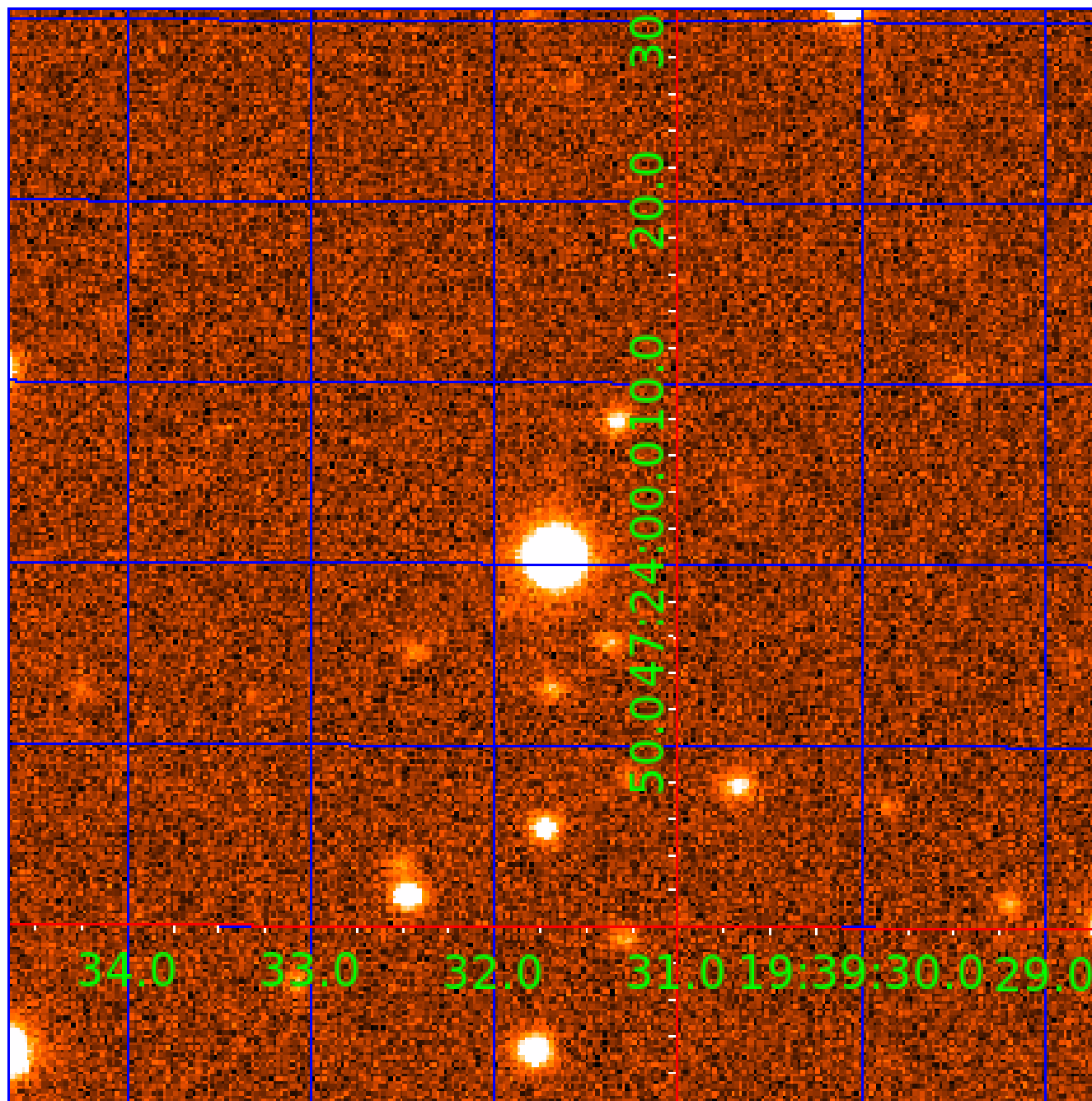


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010347630

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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Robovetter Results

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010347630-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
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010347630-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

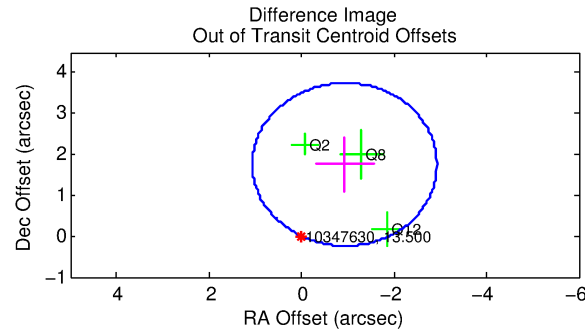
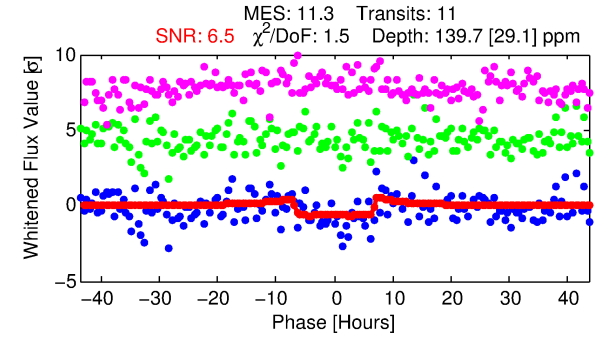
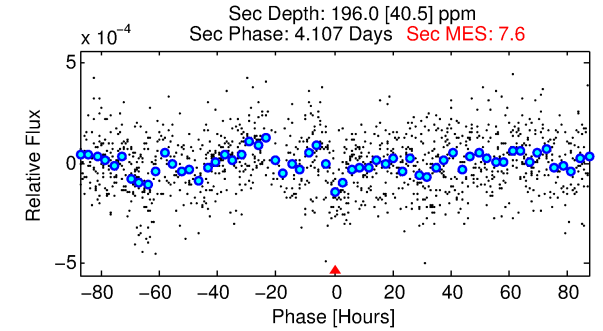
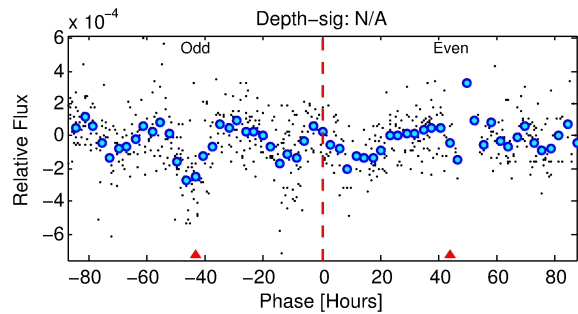
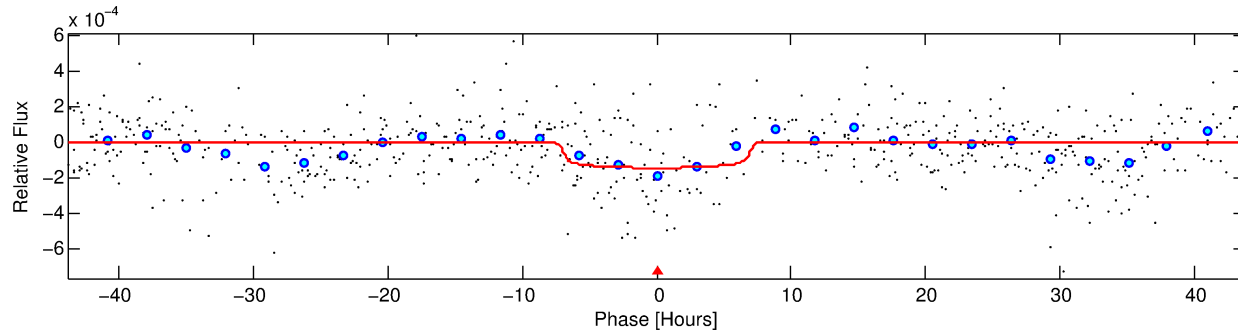
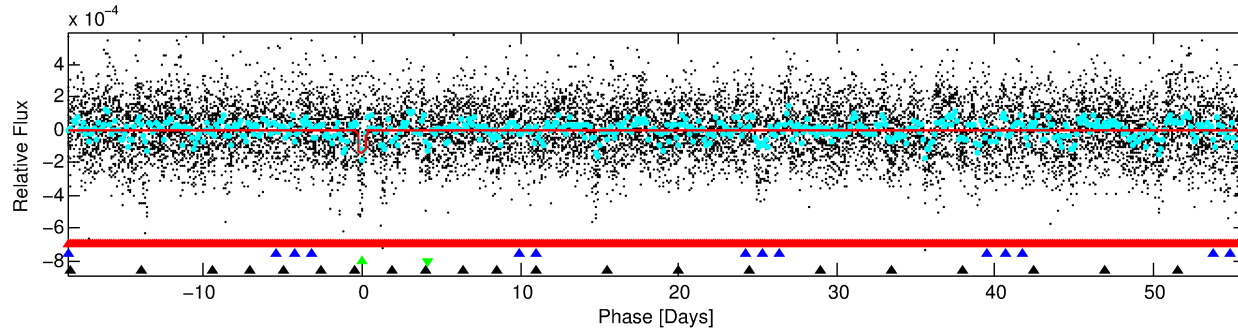
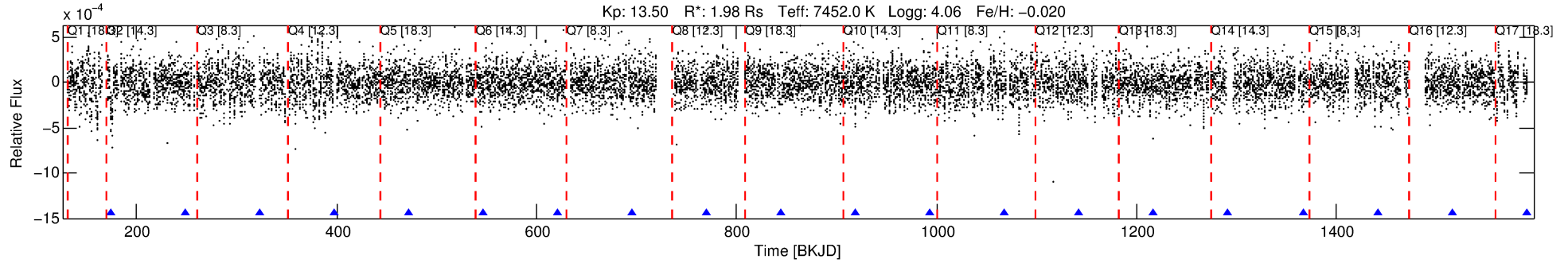
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010347630-03

No Significant Match Found

DV One-Page Summary

KIC: 10347630 Candidate: 3 of 4 Period: 74.503 d



DV Fit Results:

Period = 74.50308 [0.00244] d
Epoch = 174.1862 [0.0230] BKJD
Rp/R* = 0.0123 [0.0027]
a/R* = 20.40 [23.94]
b = 0.87 [0.34]
Seff = 64.62 [23.49]
Teq = 723 [66] K
Rp = 2.65 [0.95] Re
a = 0.4096 [0.0928] AU
Ag = 2572.72 [1492.32] [1.72σ]
Teffp = 7961 [1034] K [6.99σ]

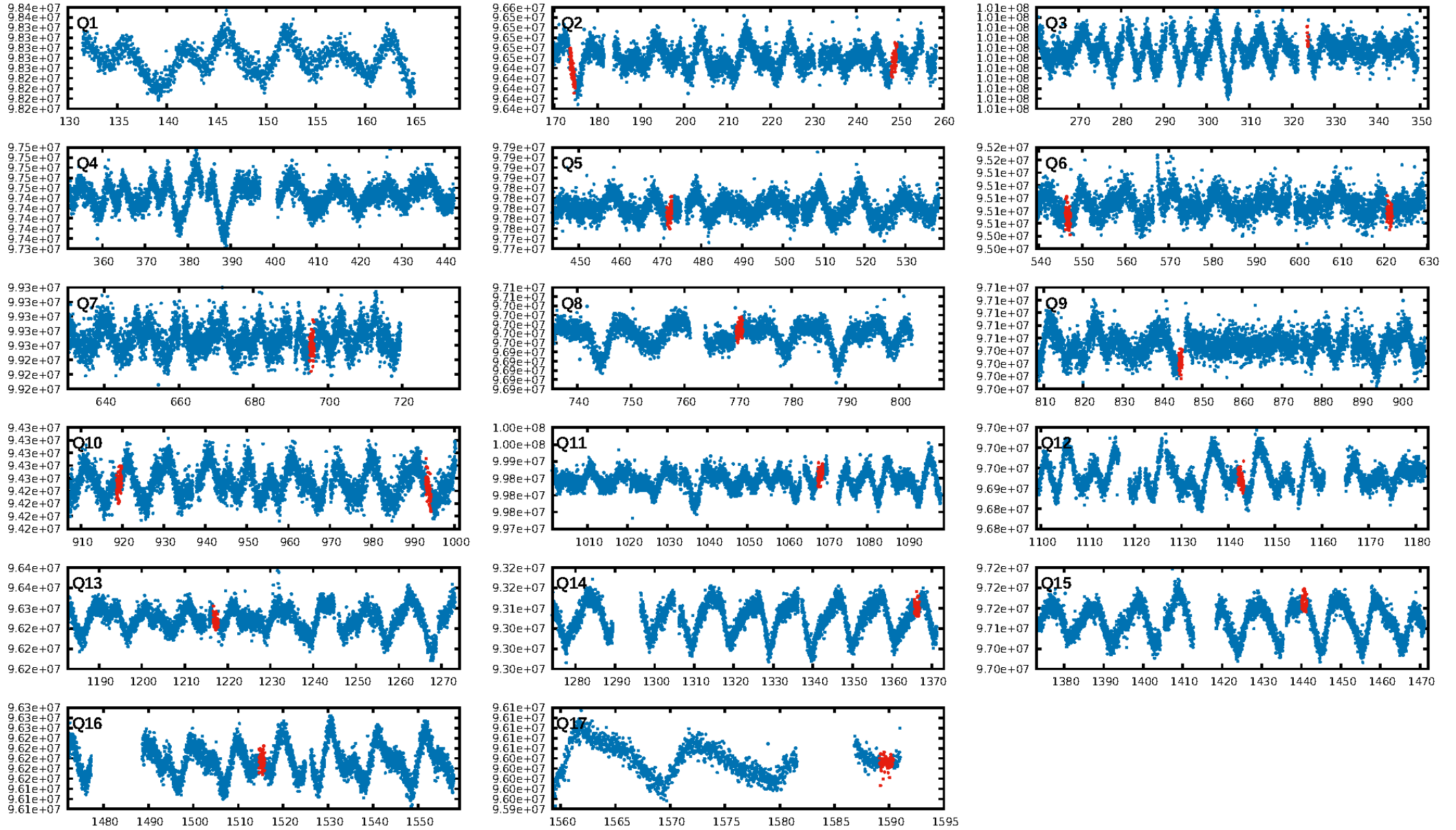
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.25σ]
LongPeriod-sig: 100.0% [27.79σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.68e-20
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: 1.15
Centroid-sig: 0.0%
Centroid-so: 2.091 arcsec [2.95σ]
OotOffset-rm: 1.988 arcsec [2.99σ]
KicOffset-rm: 1.923 arcsec [2.76σ]
OotOffset-st: 1/0/2/0 [3]
KicOffset-st: 1/0/2/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.00 [0/11]

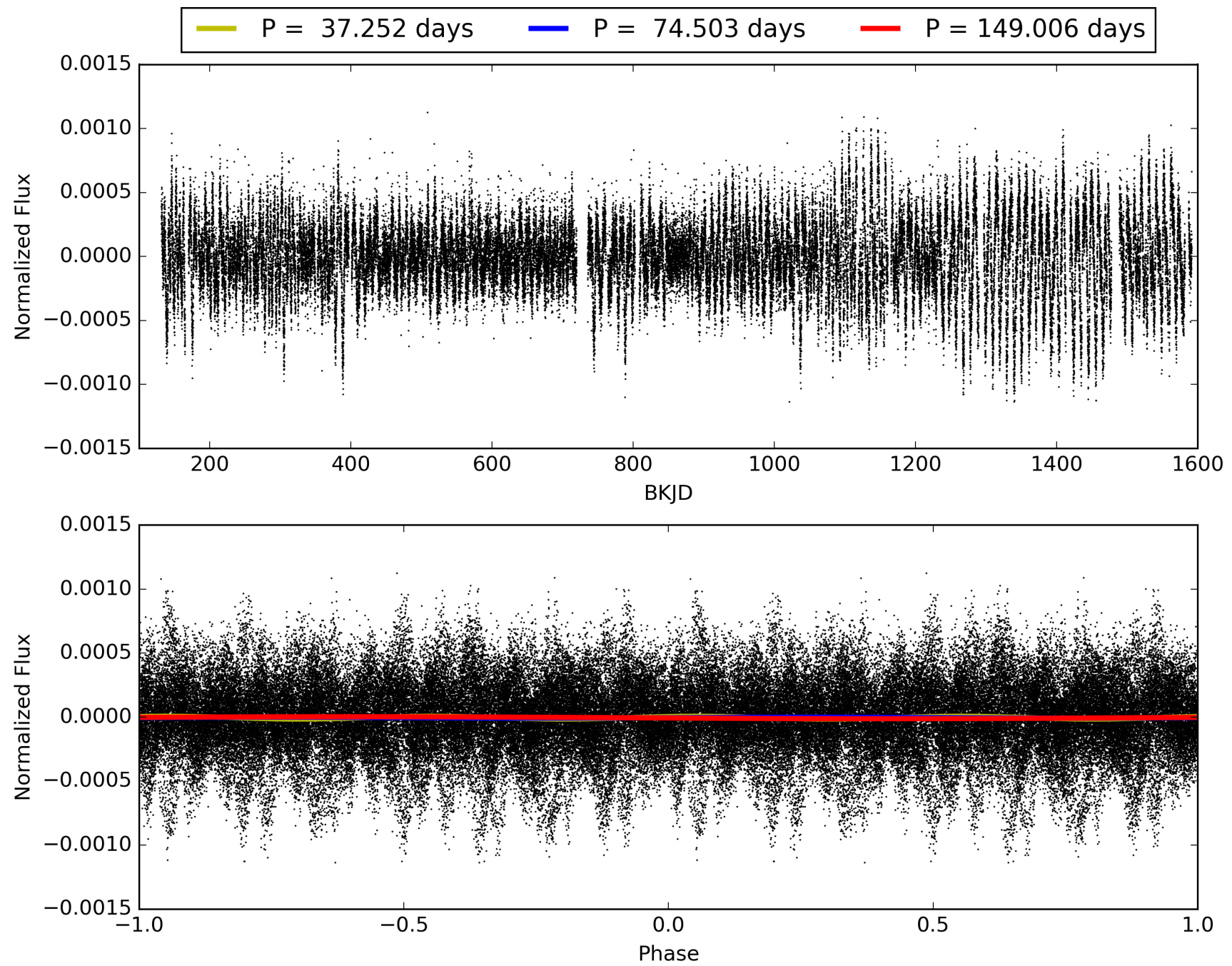
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:42:46 Z

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

TCE 010347630-03, PDC Light Curves

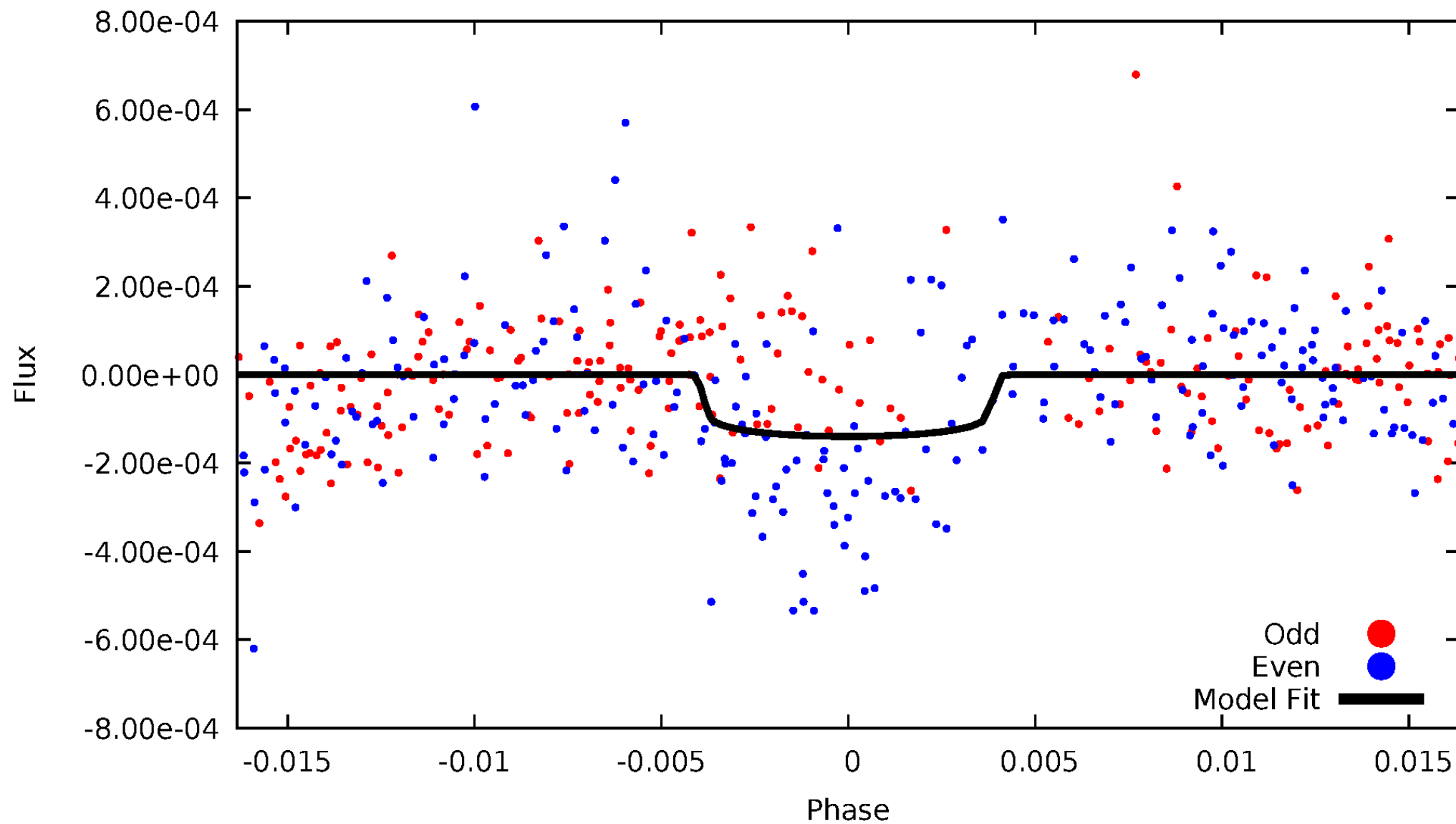


TCE 010347630-03



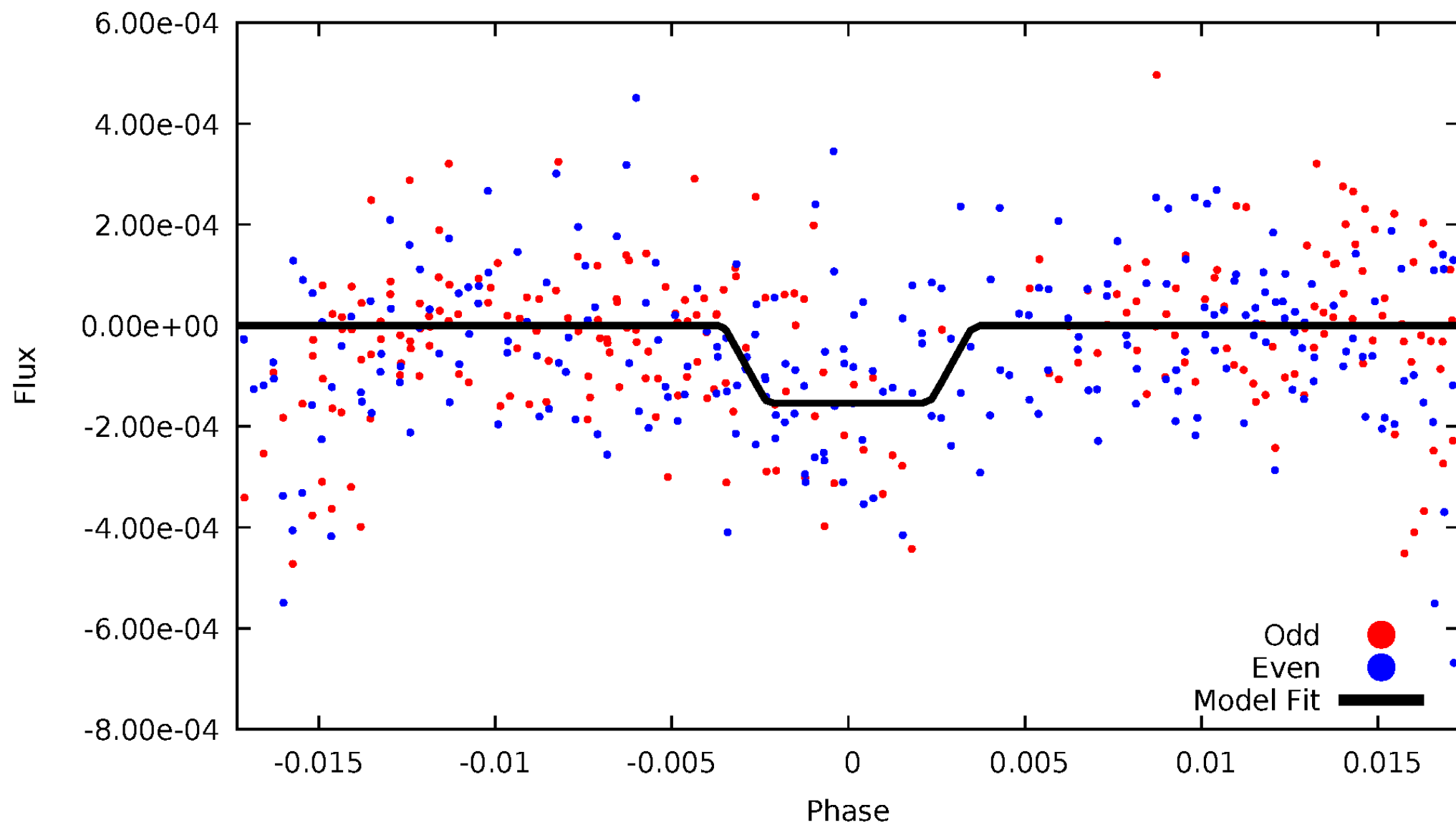
DV Odd/Even

TCE 010347630-03

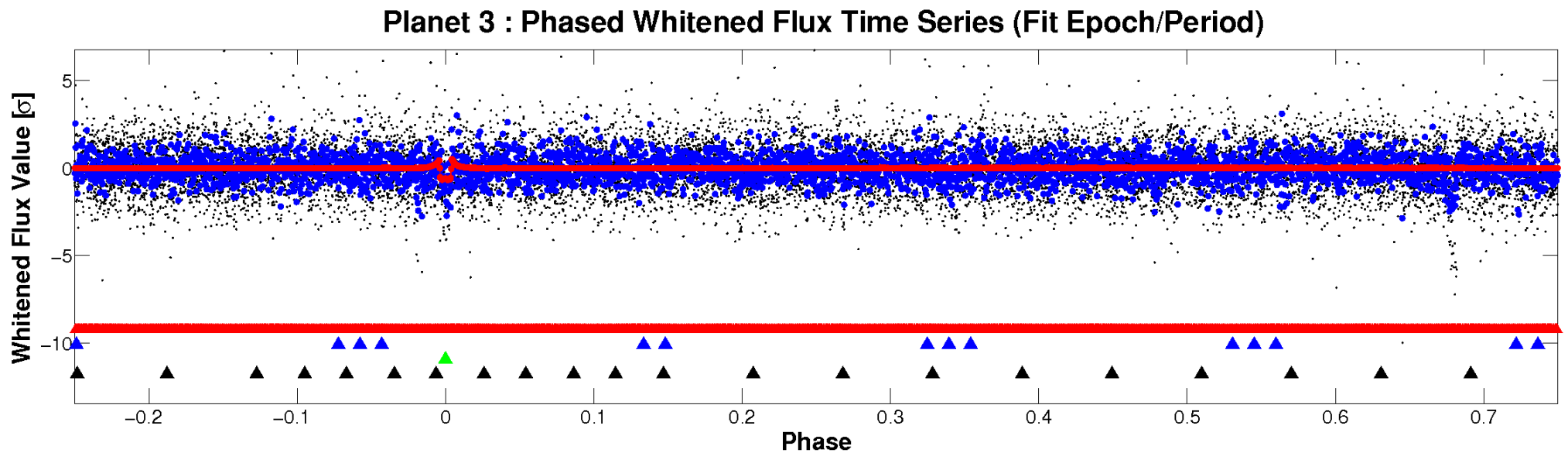
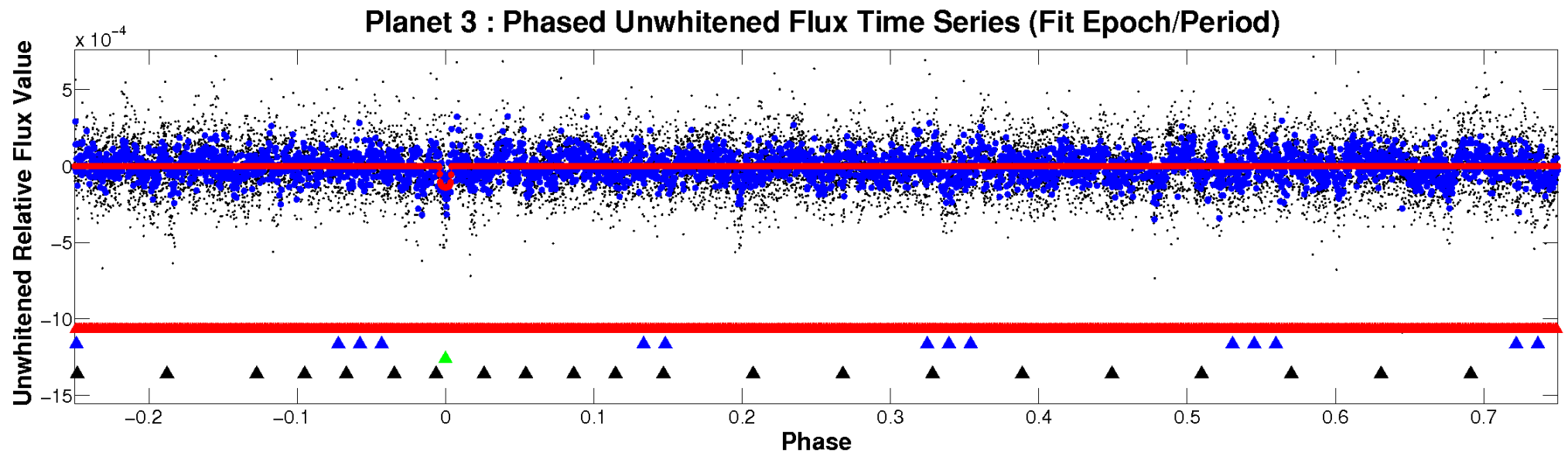


ALT Odd/Even

TCE 010347630-03

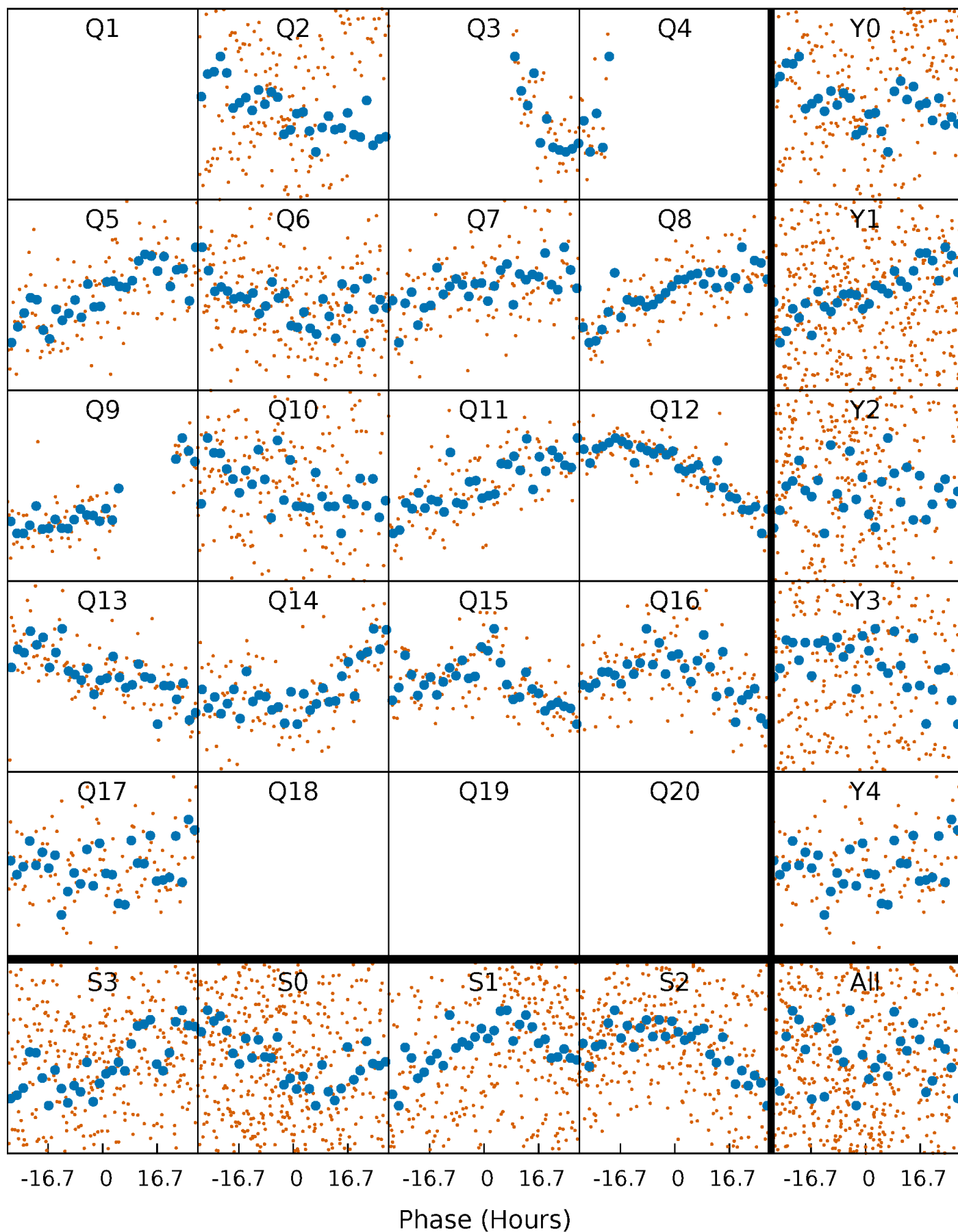


Non-Whitened Vs. Whitened Light Curve



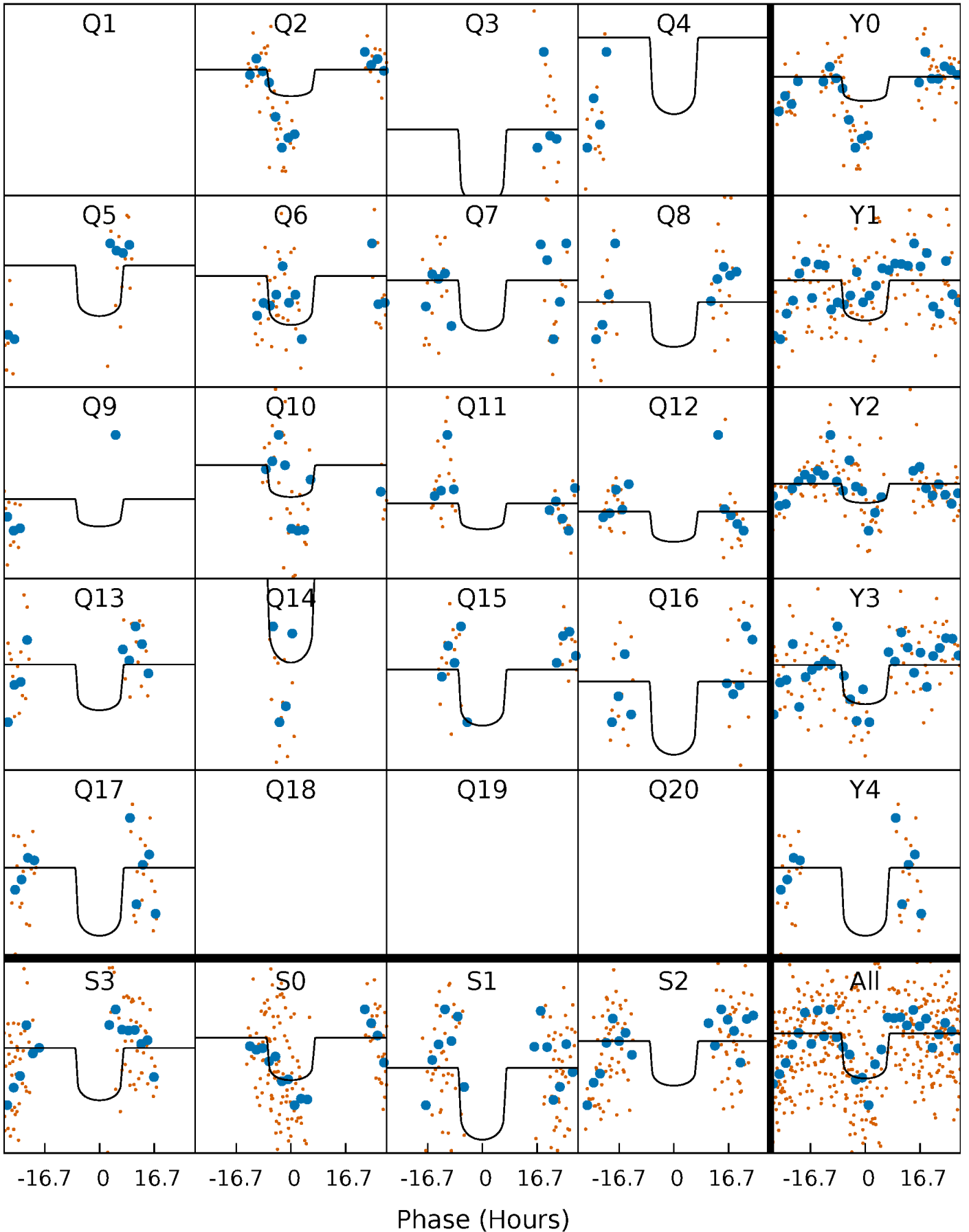
PDC Quarter-Phased Transit Curves

TCE 010347630-03 P= 74.503080 Days $T_0=174.186218$ (BKJD)



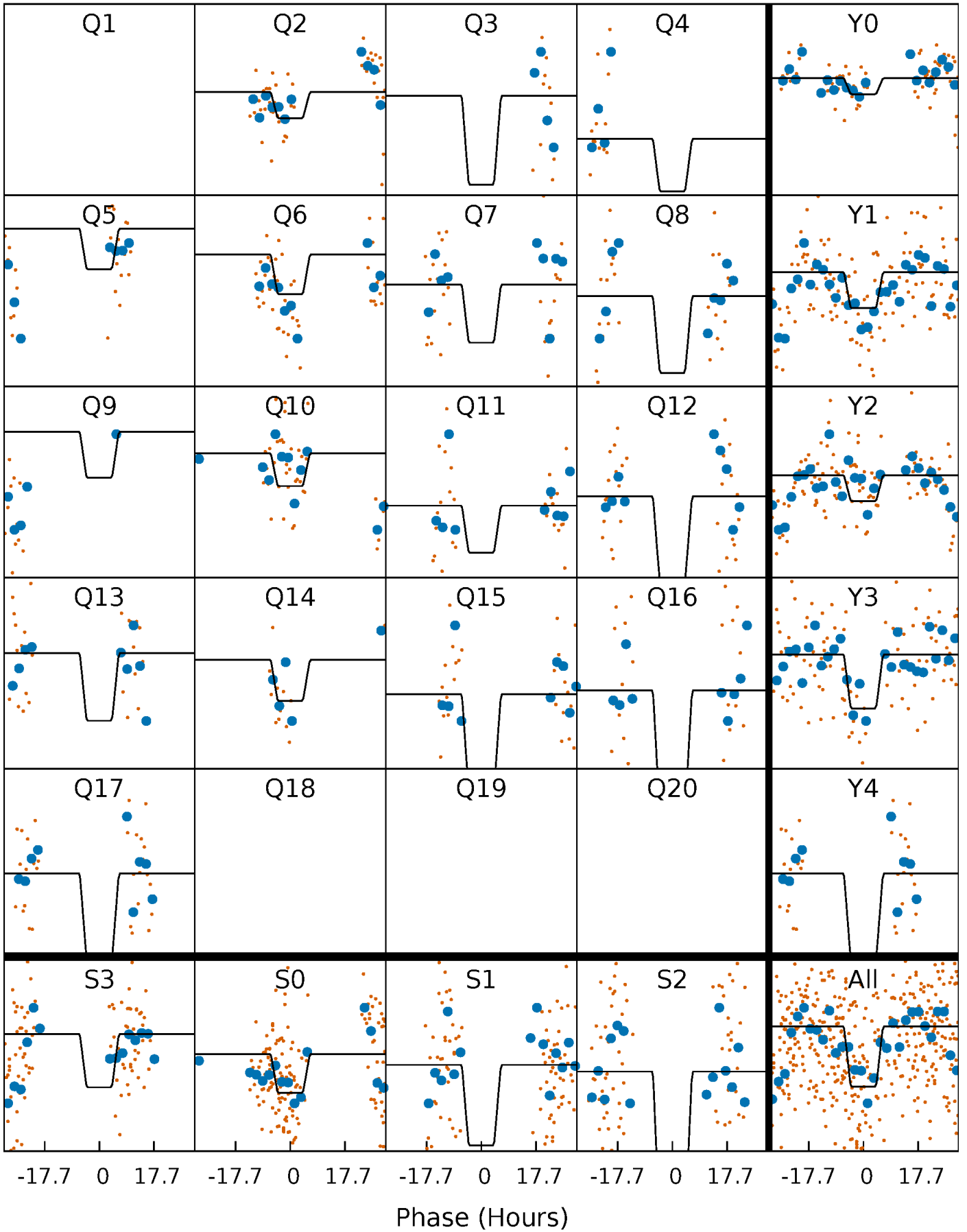
DV Quarter-Phased Transit Curves

TCE 010347630-03 P= 74.503080 Days $T_0=174.186218$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

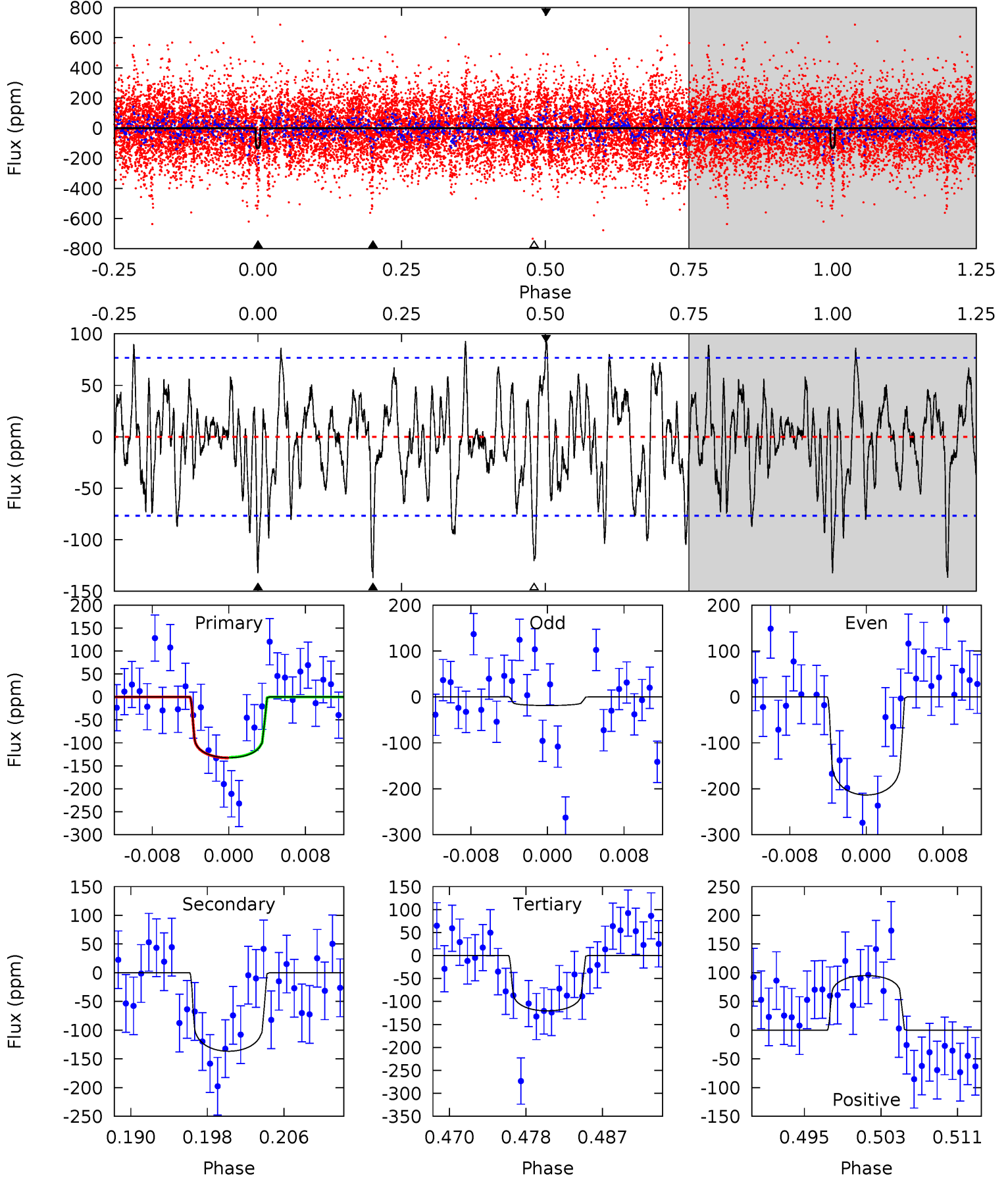
TCE 010347630-03 P= 74.504851 Days $T_0=174.168110$ (BKJD)



DV Model-Shift Uniqueness Test

010347630-03, P = 74.503080 Days, E = 99.683138 Days

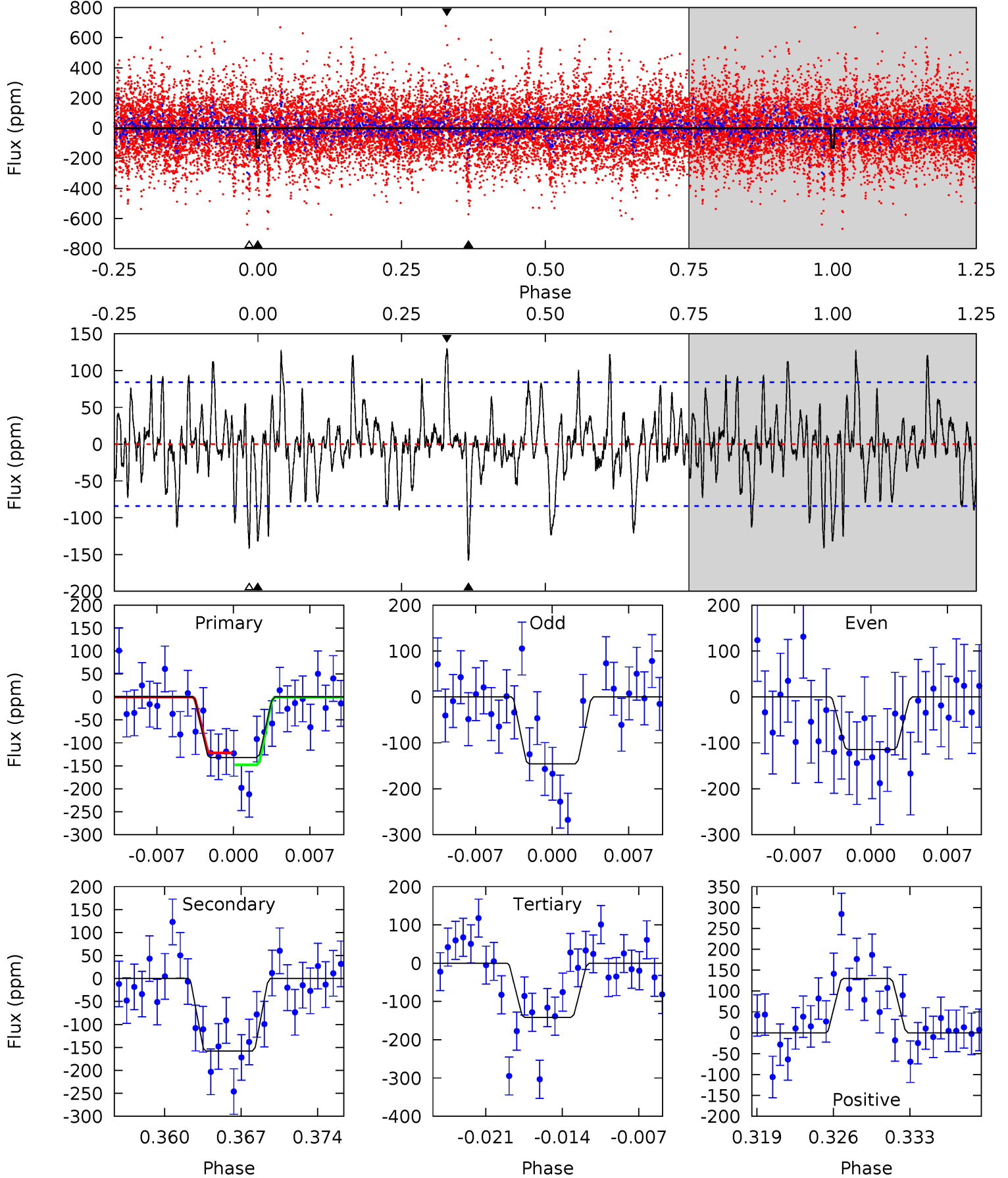
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.74	9.02	7.95	6.27	5.06	2.64	2.52	0.78	2.46	1.07	2.75	6.19	1.11	0.41	0.04



Alt Model-Shift Uniqueness Test

010347630-03, P = 74.504851 Days, E = 99.663259 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.00	9.57	8.56	7.87	5.10	2.70	2.39	-0.56	0.12	1.01	1.69	0.89	1.10	0.45	0.76



Stellar Parameters For KIC 010347630

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7452^{+207}_{-337}	$4.062^{+0.165}_{-0.165}$	$-0.020^{+0.200}_{-0.350}$	$1.981^{+0.558}_{-0.508}$	$1.650^{+0.189}_{-0.284}$	$0.299^{+0.263}_{-0.138}$
	+3%/-5%	+4%/-4%	+1000%/-1750%	+28%/-26%	+11%/-17%	+88%/-46%
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 010347630-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-137 ± 15	$2.63^{+0.77}_{-0.62}$	1008^{+75}_{-69}	7193^{+1348}_{-797}	1783^{+1445}_{-693}
Alt.	-158 ± 17	$2.63^{+0.71}_{-0.63}$	1004^{+72}_{-71}	7445^{+1235}_{-814}	2045^{+1527}_{-767}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

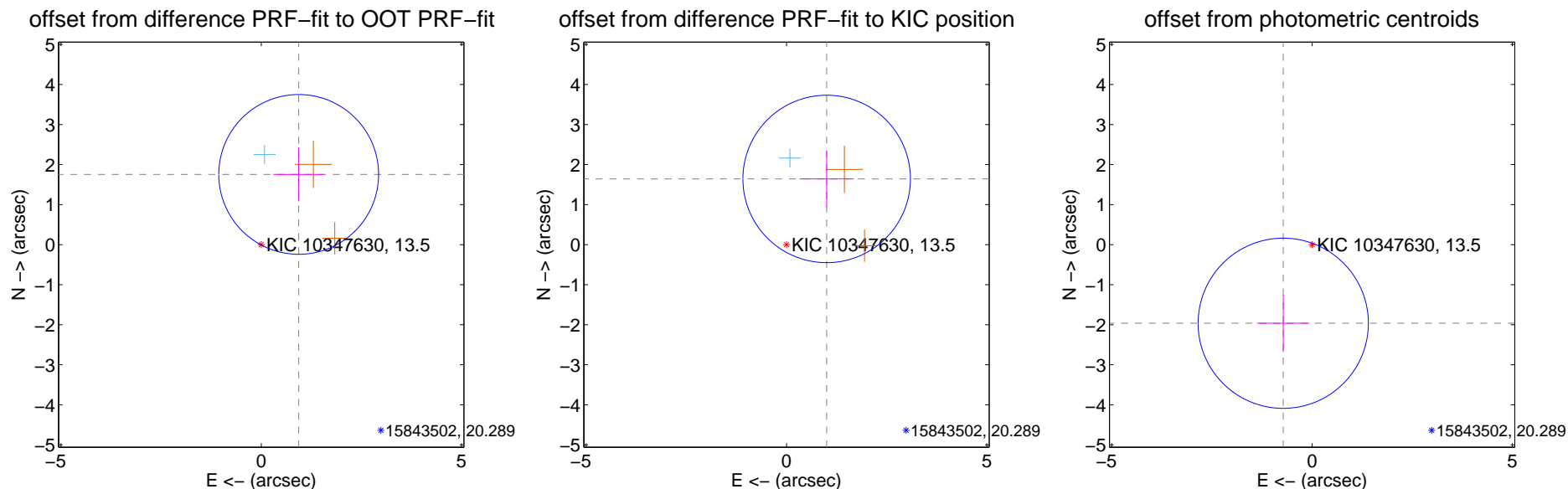
DV Centroid Data

Supplemental centroid analysis for 010347630-03. Kepler magnitude: 13.50. Transit SNR 6.51

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

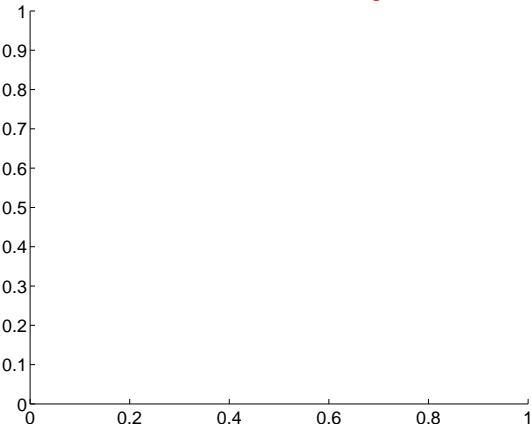
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.988 ± 0.665	2.99	-0.935 ± 0.632	1.754 ± 0.674
PRF-fit source offset from KIC position	1.923 ± 0.697	2.76	-1.002 ± 0.679	1.641 ± 0.704
photometric centroid source offset	2.09 ± 0.71	2.95	0.72 ± 0.65	-1.96 ± 0.72



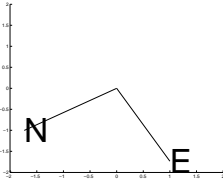
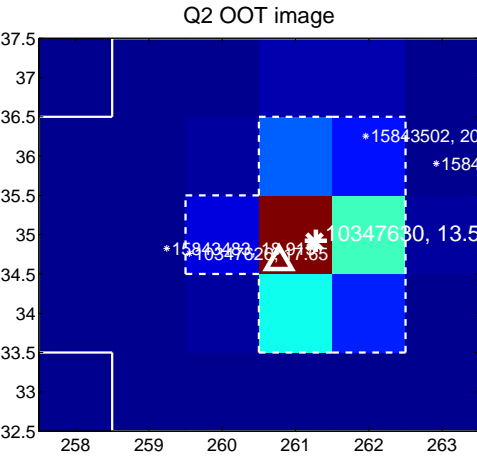
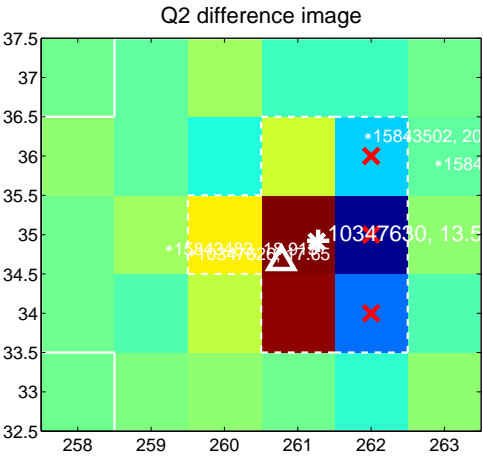
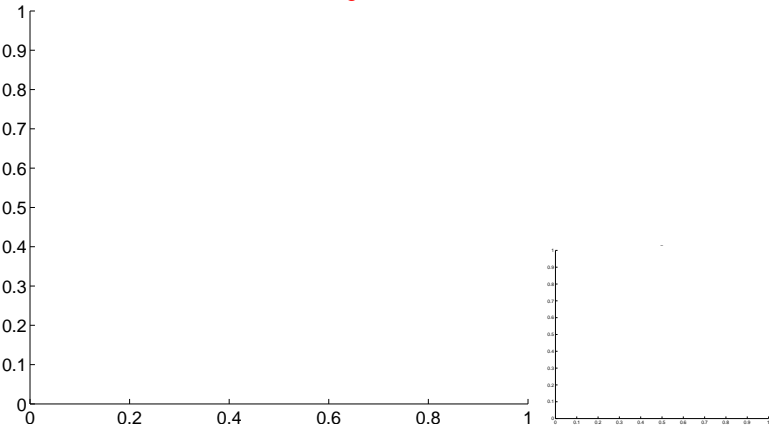
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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

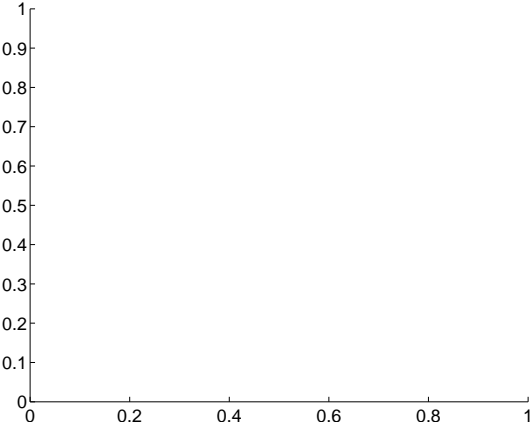
Q1 no difference image



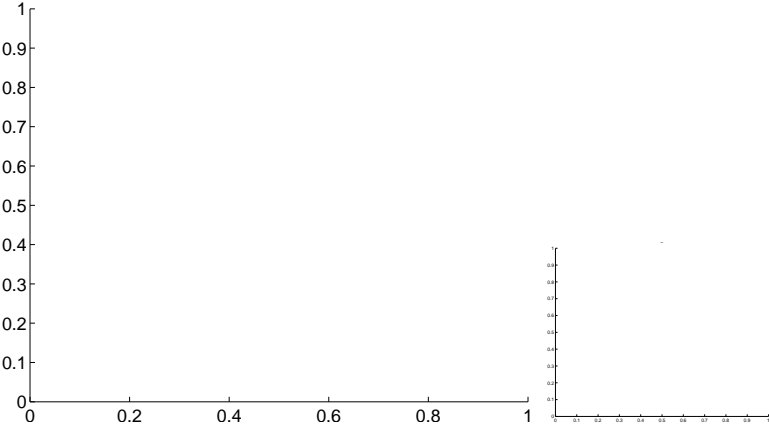
Q1 no OOT image



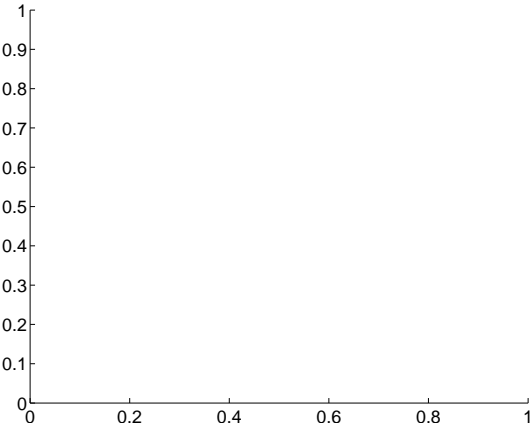
Q3 no difference image



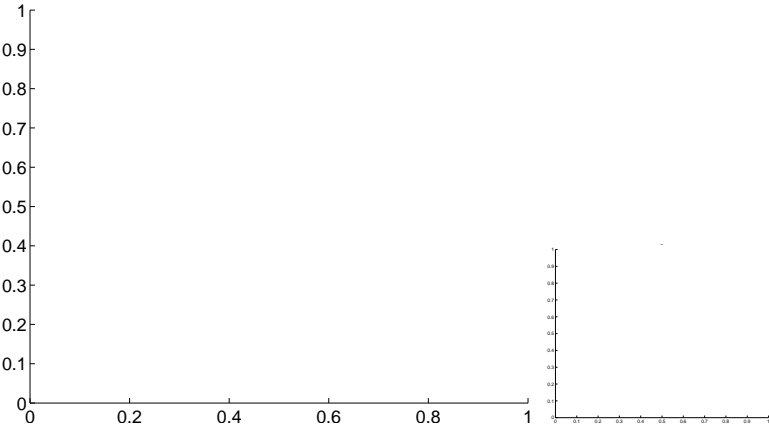
Q3 no OOT image



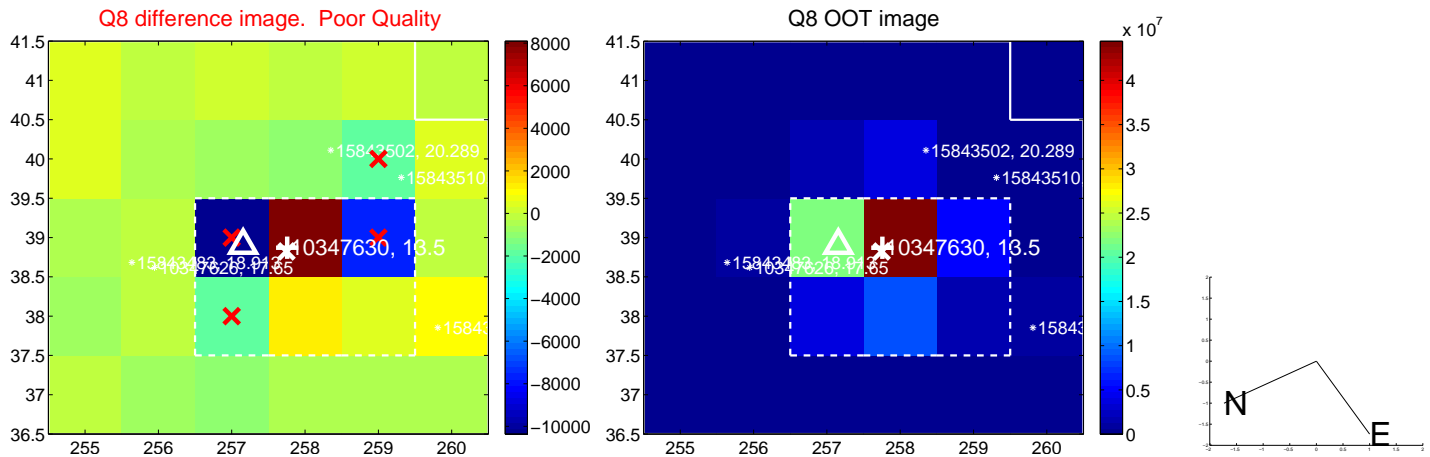
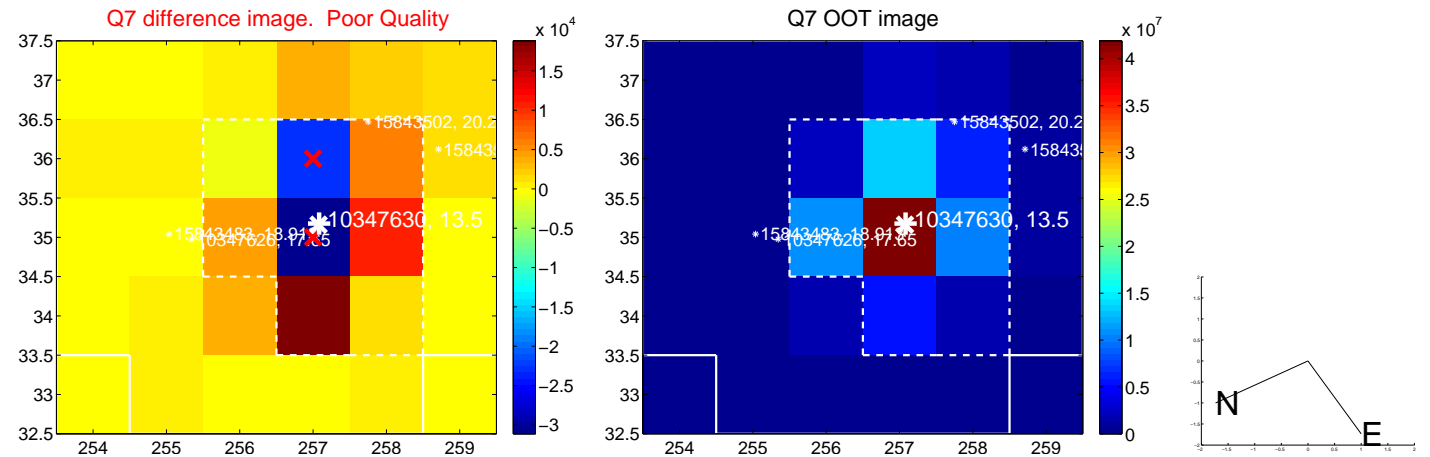
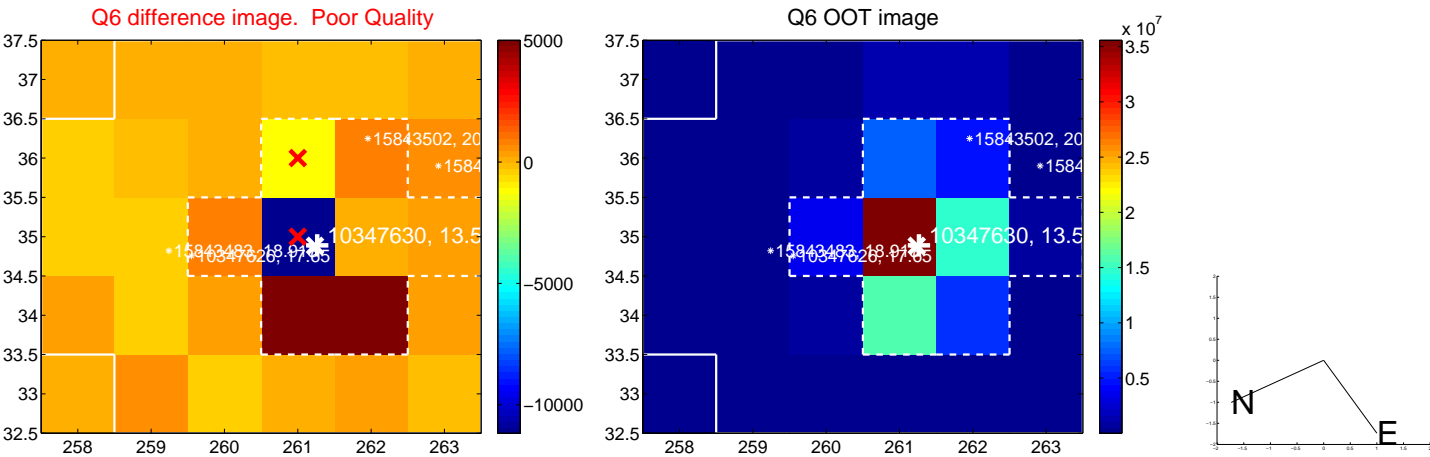
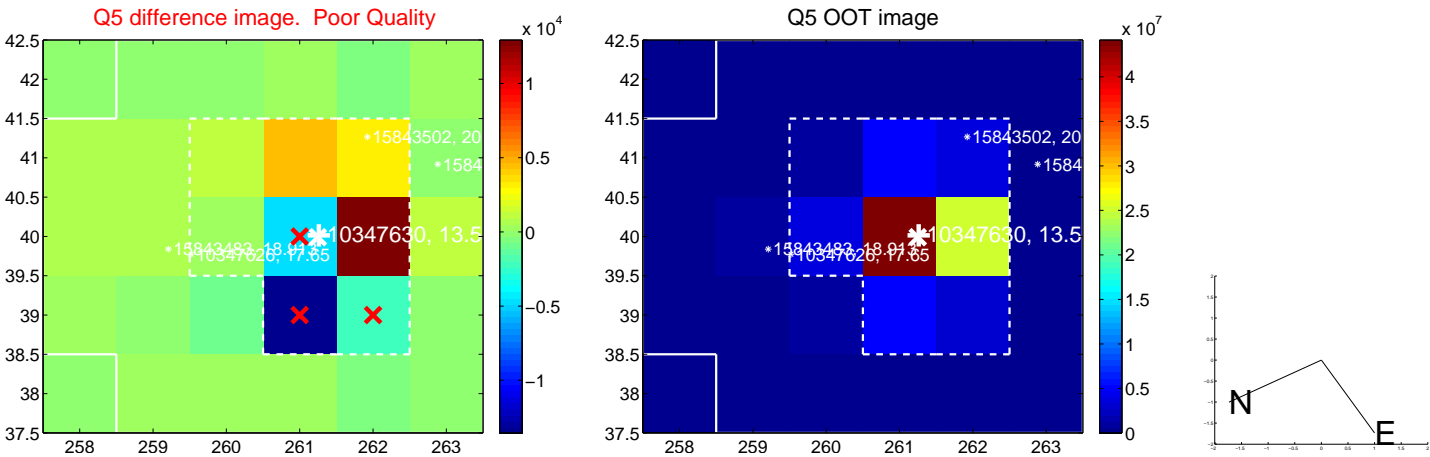
Q4 no difference image



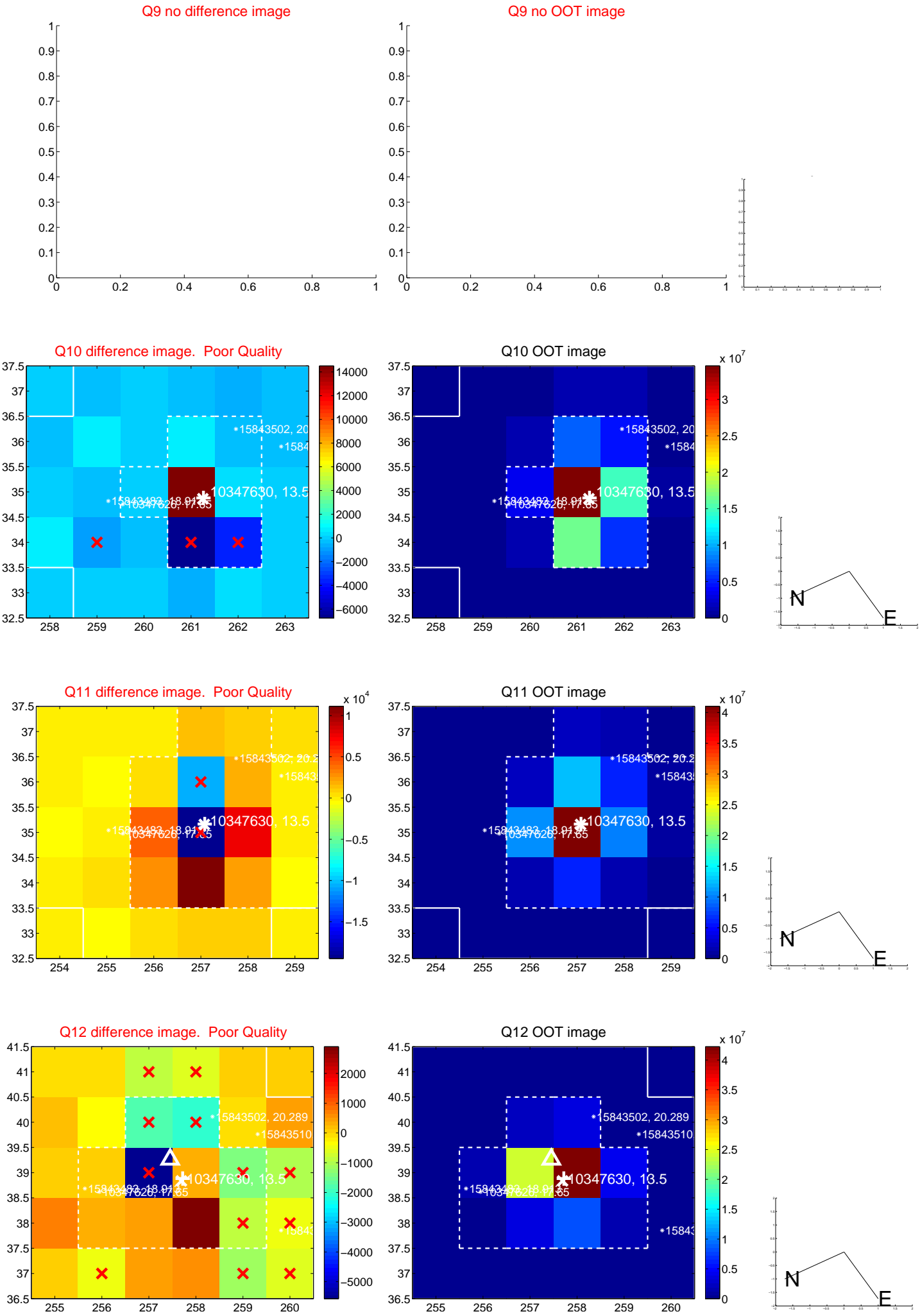
Q4 no OOT image



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

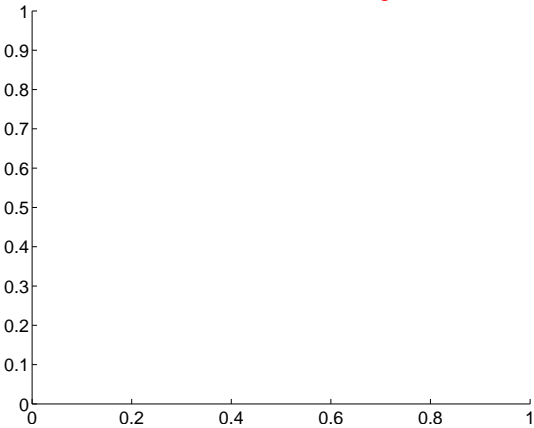


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

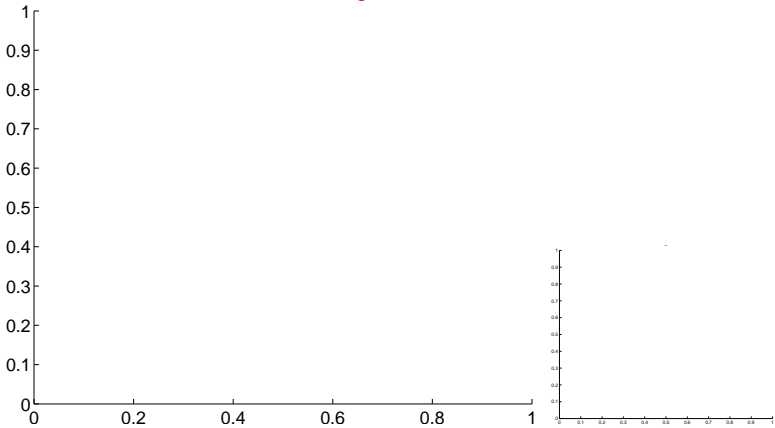


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

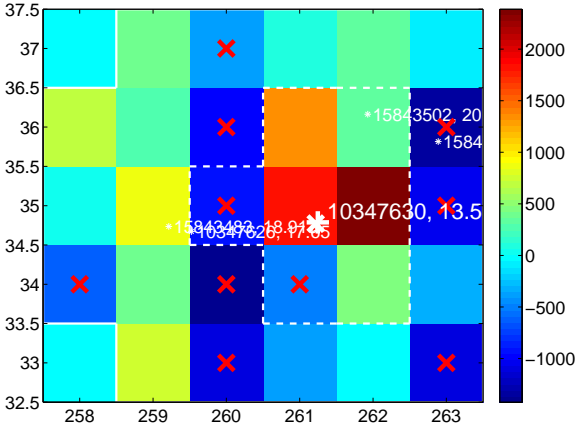
Q13 no difference image



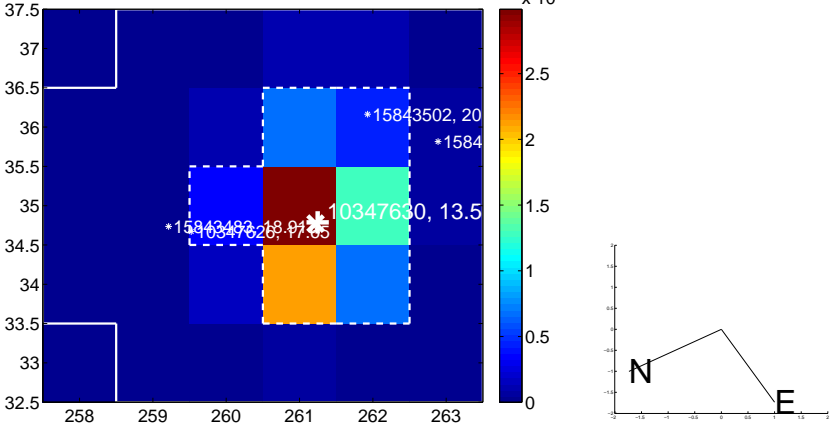
Q13 no OOT image



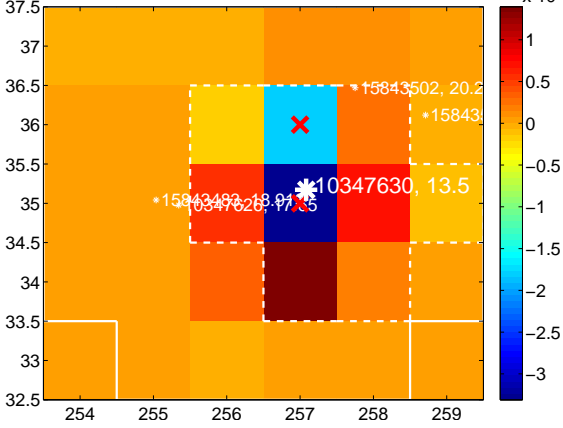
Q14 difference image. Poor Quality



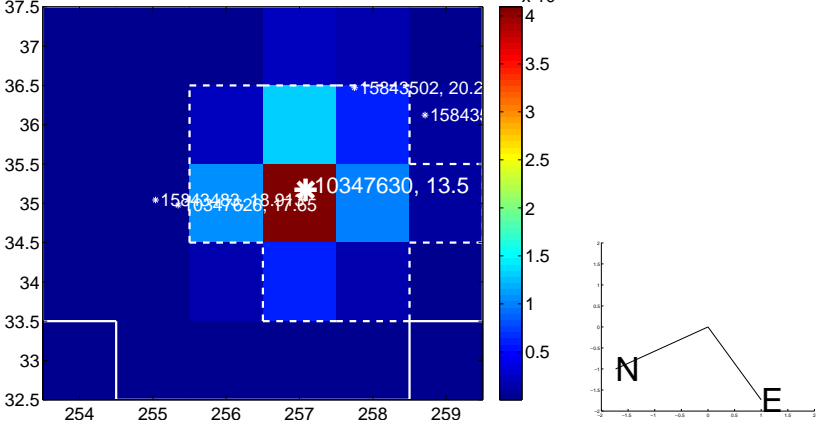
Q14 OOT image



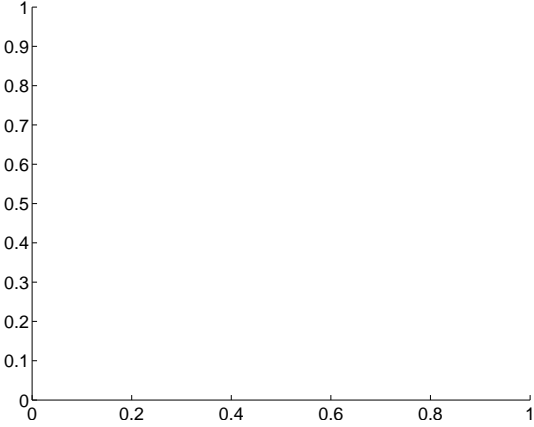
Q15 difference image. Poor Quality



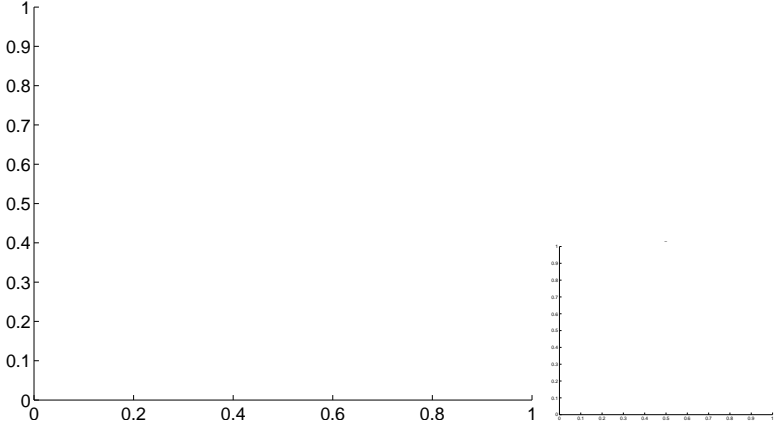
Q15 OOT image



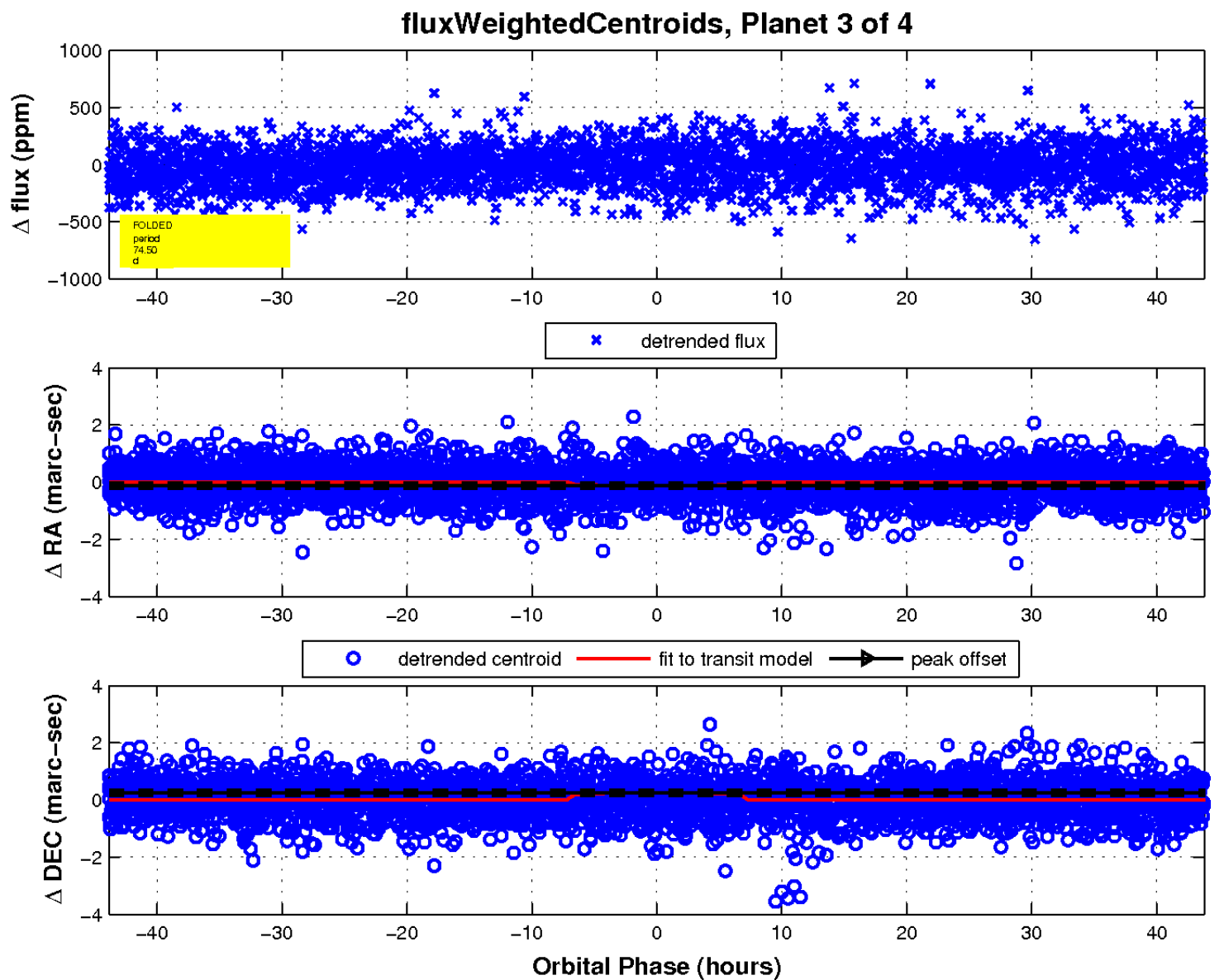
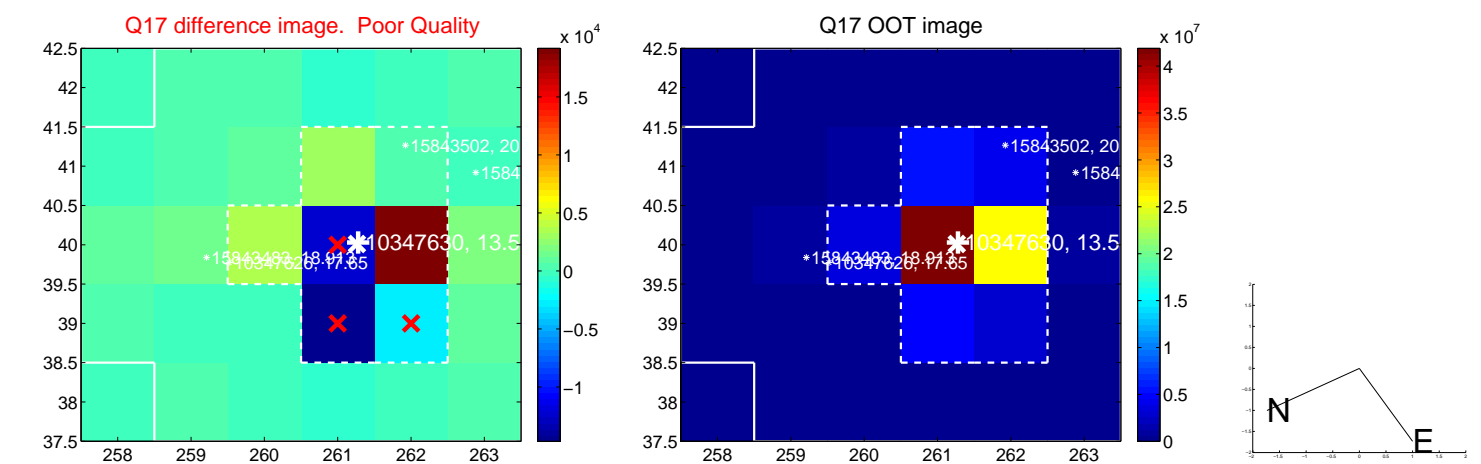
Q16 no difference image



Q16 no OOT image

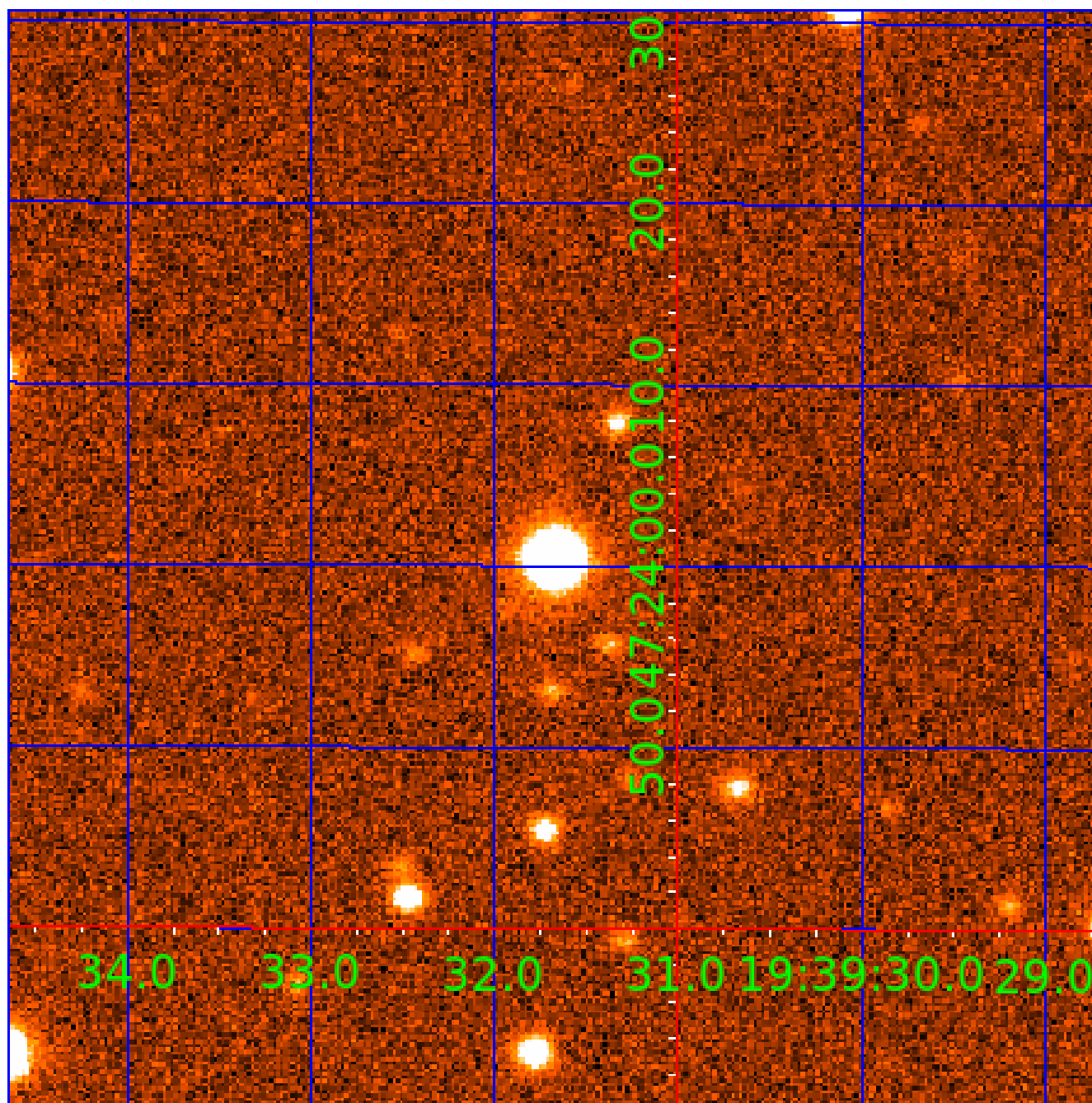


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010347630

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})
010347630-01	OBS	No	1.514702	132.402570	15.8	9.280	8.1	9.8	1.98	7452	0.84	11644.99
010347630-03	OBS	No	74.503080	174.186218	139.7	14.615	11.3	6.5	1.98	7452	2.65	64.62
010347630-04	OBS	No	69.997324	182.725397	159.2	9.281	7.4	6.6	1.98	7452	2.84	70.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010347630-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010347630-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010347630-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

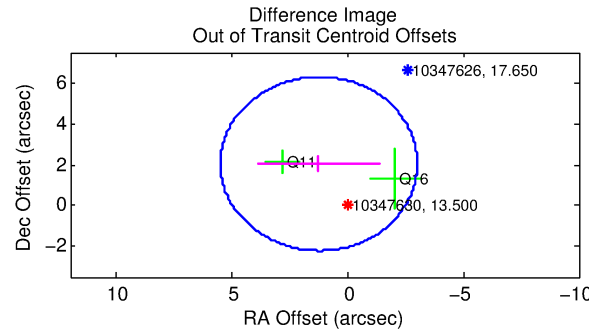
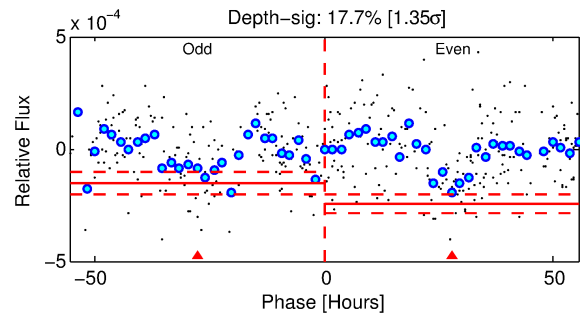
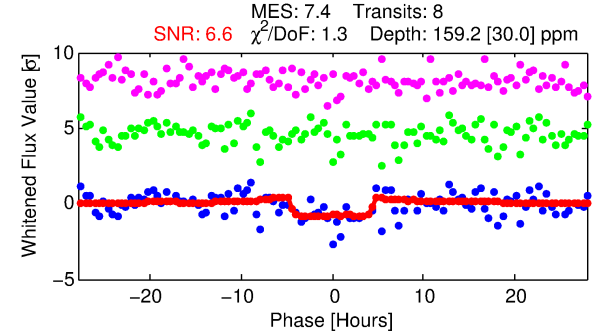
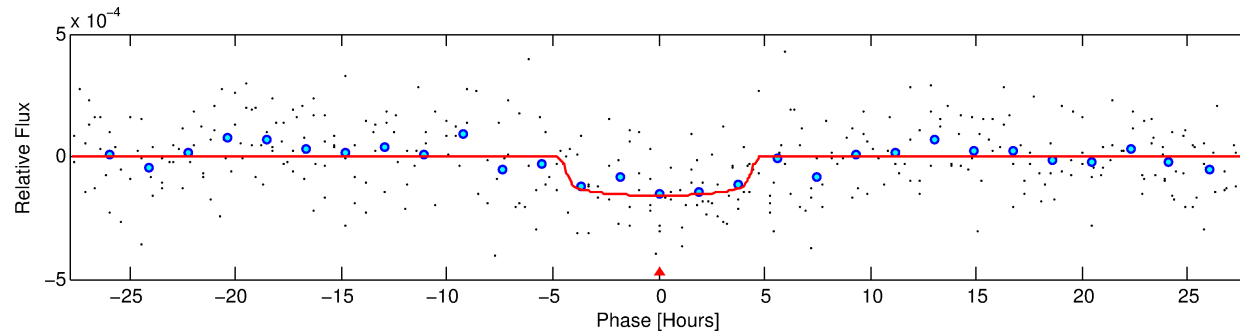
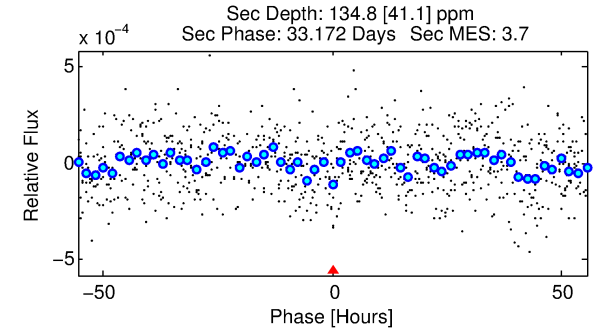
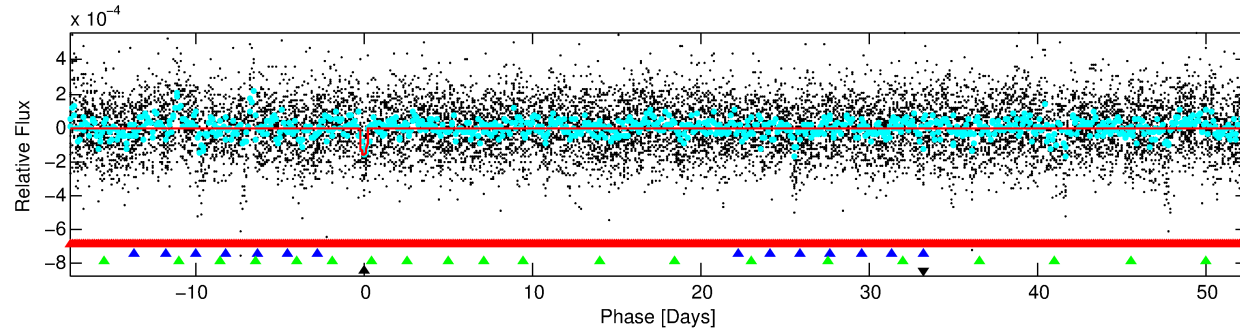
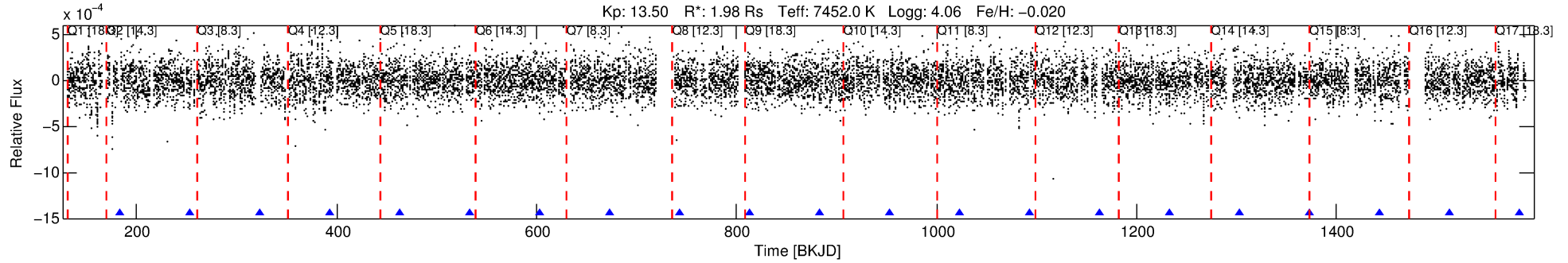
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010347630-04

No Significant Match Found

DV One-Page Summary

KIC: 10347630 Candidate: 4 of 4 Period: 69.997 d



DV Fit Results:

Period = 69.99732 [0.00245] d
Epoch = 182.7254 [0.0255] BKJD
Rp/R* = 0.0132 [0.0041]
a/R* = 29.54 [56.15]
b = 0.87 [0.51]
Seff = 70.22 [25.53]
Teq = 738 [67] K
Rp = 2.84 [1.19] Re
a = 0.3930 [0.0890] AU
Ag = 1416.56 [1077.25] [1.31σ]
Teffp = 7002 [1252] K [5.00σ]

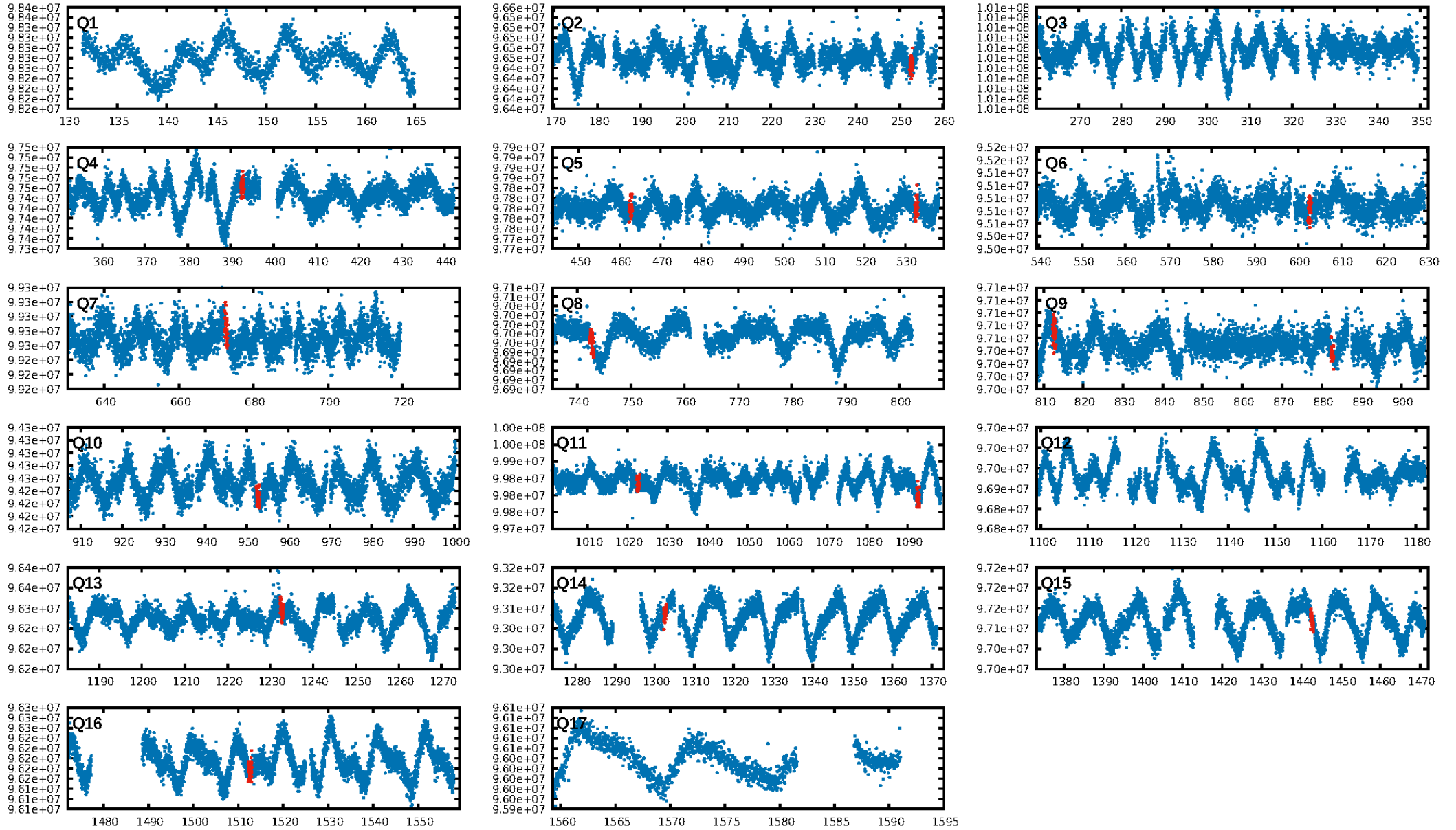
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [125.23σ]
LongPeriod-sig: 100.0% [6.25σ]
ModelChiSquare2-sig: 0.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.60e-08
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 0.284
Centroid-sig: 15.5%
Centroid-so: 1.065 arcsec [1.39σ]
OotOffset-rm: 2.390 arcsec [1.68σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 2.325 arcsec [1.38σ]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/13]

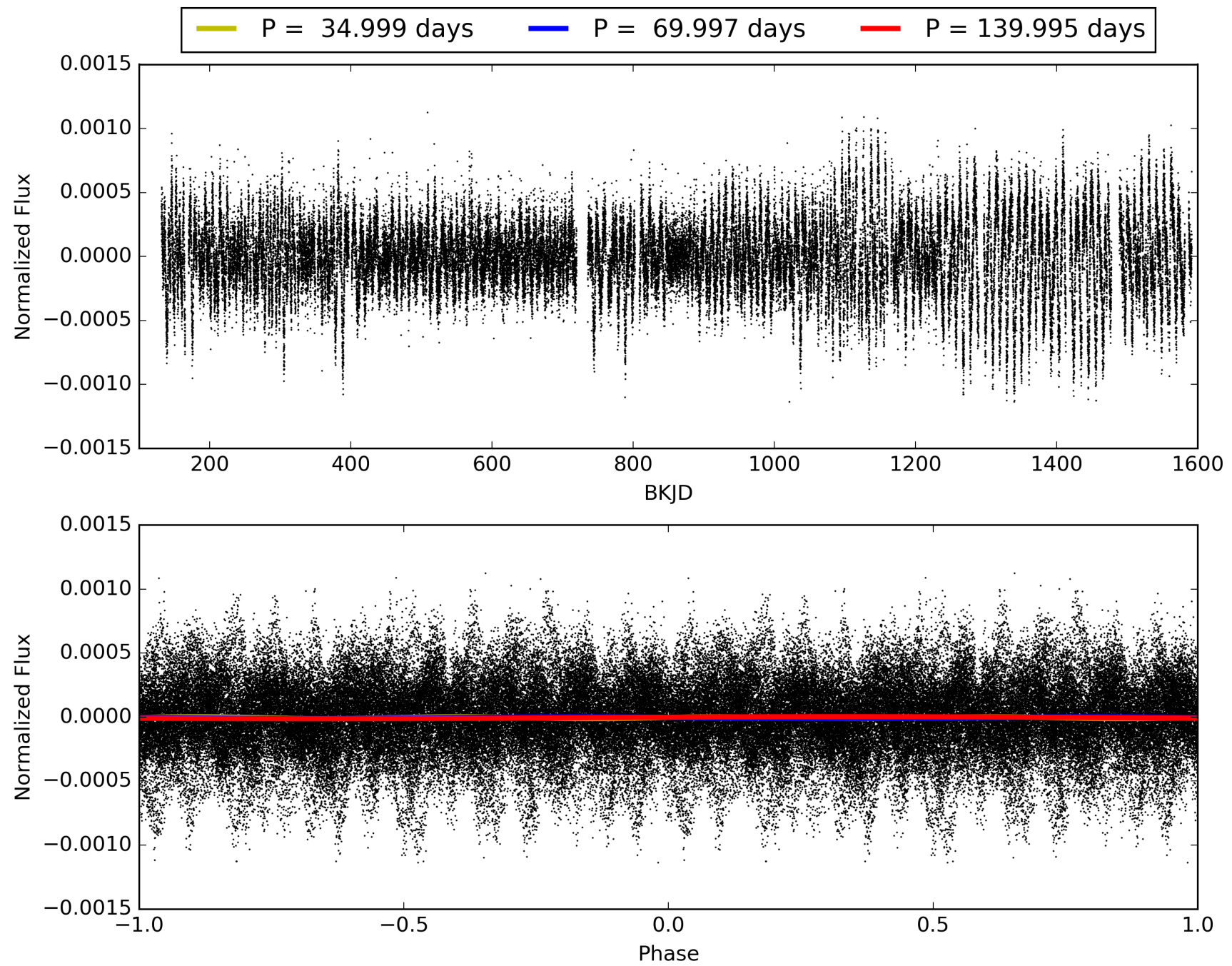
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:42:50 Z

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

TCE 010347630-04, PDC Light Curves

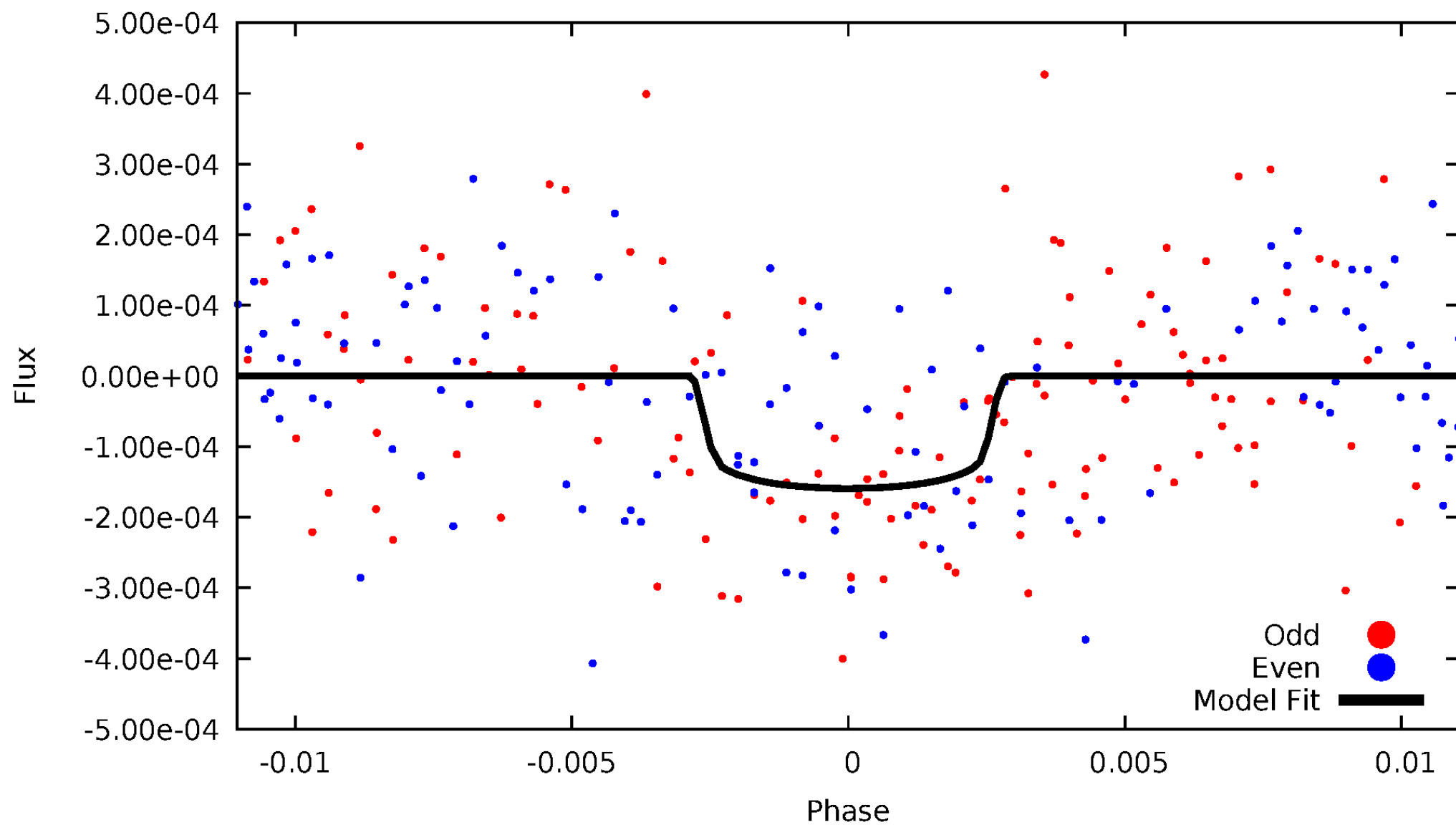


TCE 010347630-04



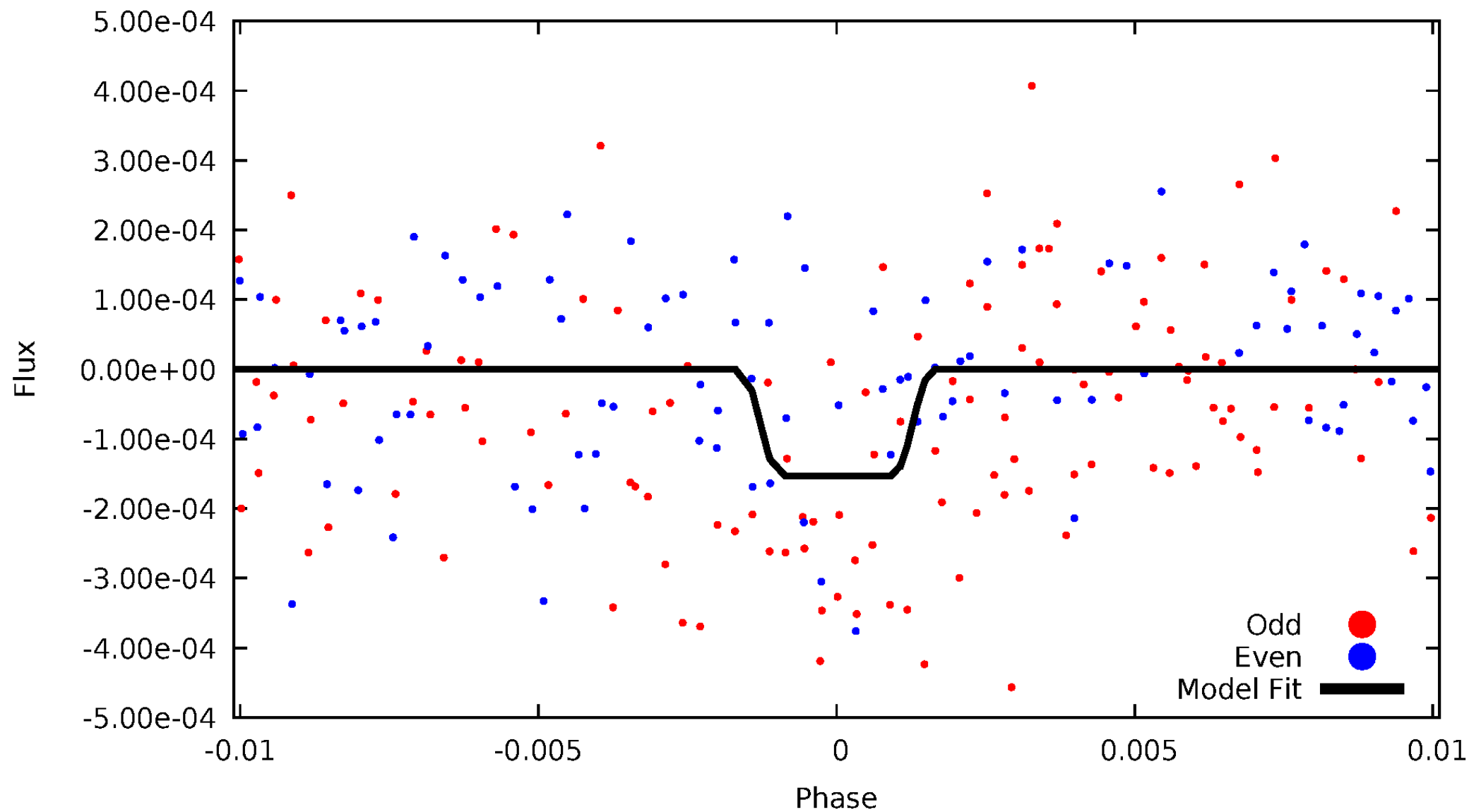
DV Odd/Even

TCE 010347630-04



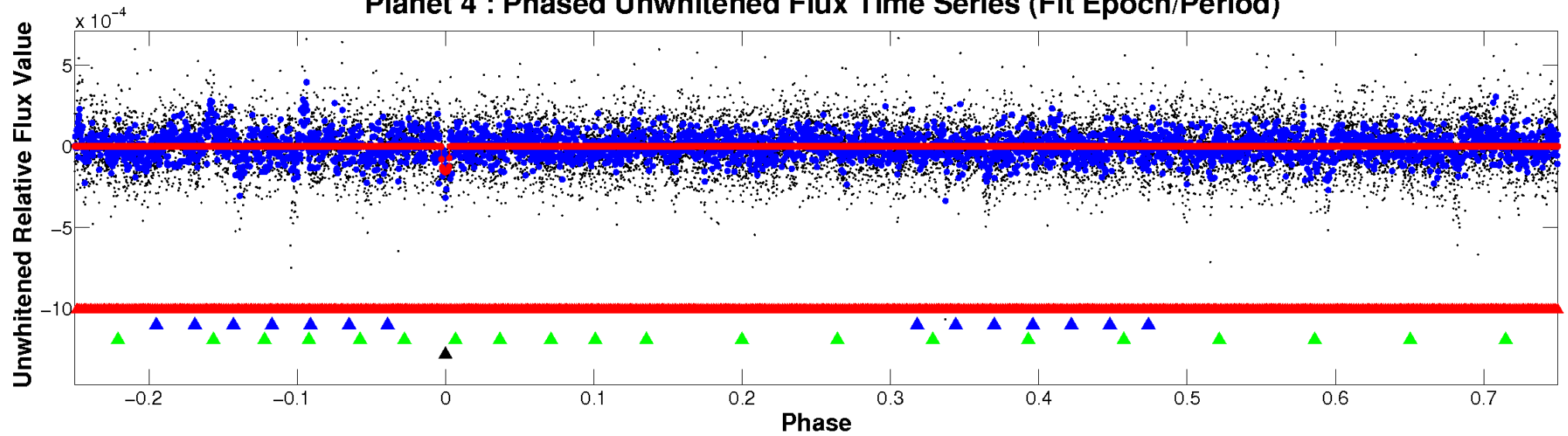
ALT Odd/Even

TCE 010347630-04

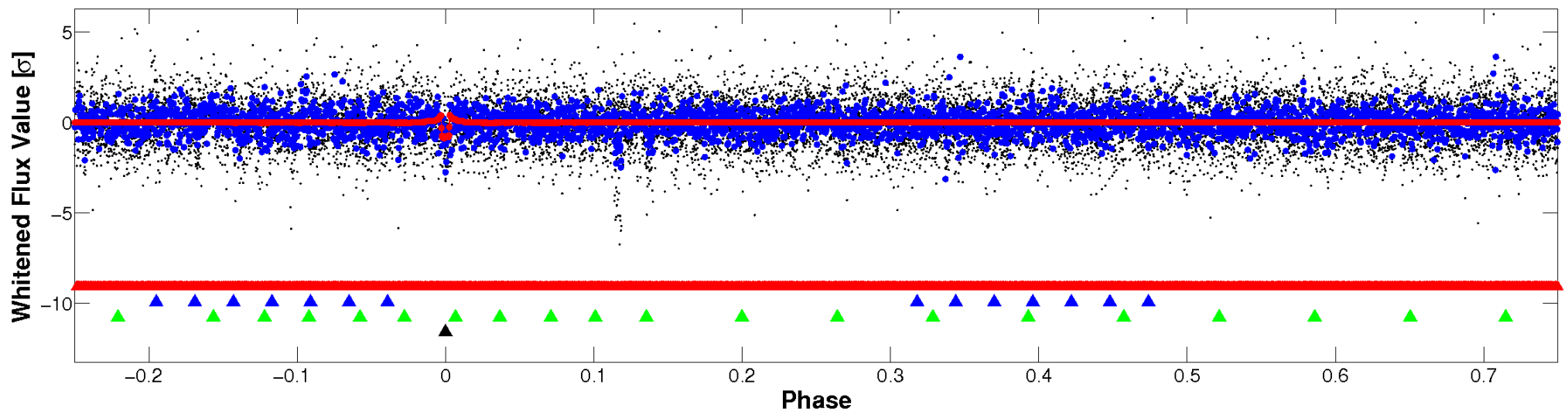


Non-Whitened Vs. Whitened Light Curve

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

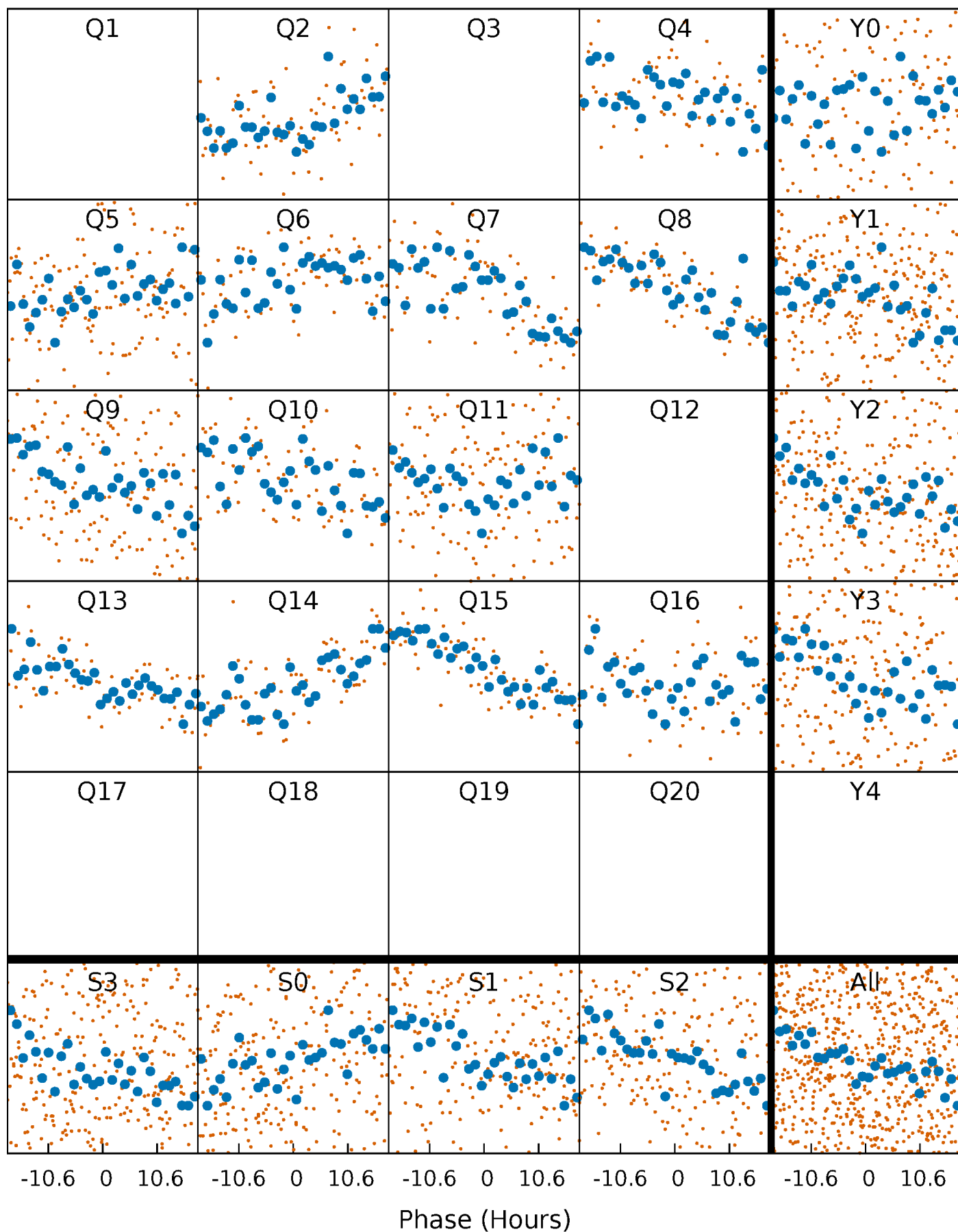


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



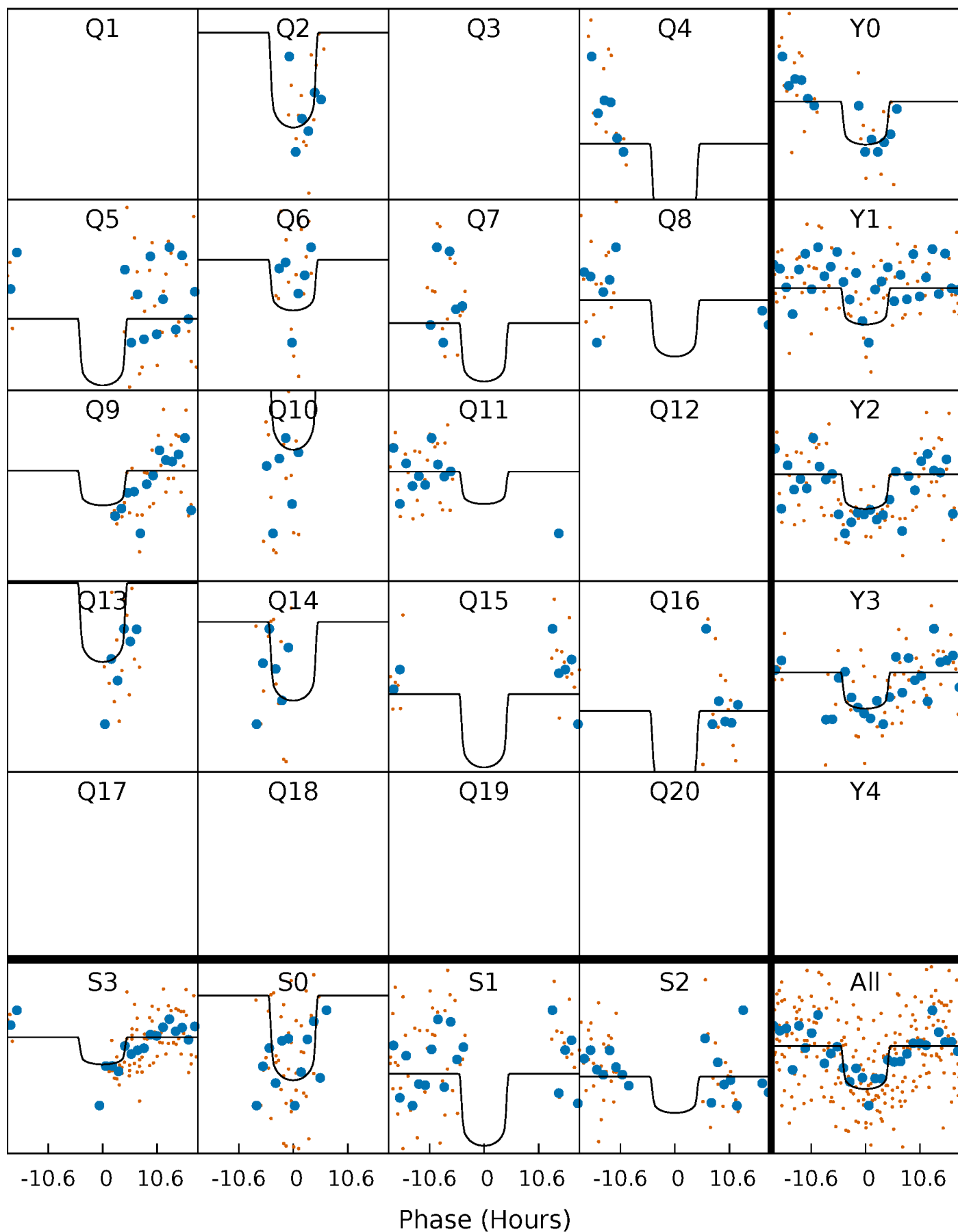
PDC Quarter-Phased Transit Curves

TCE 010347630-04 P= 69.997324 Days $T_0=182.725397$ (BKJD)



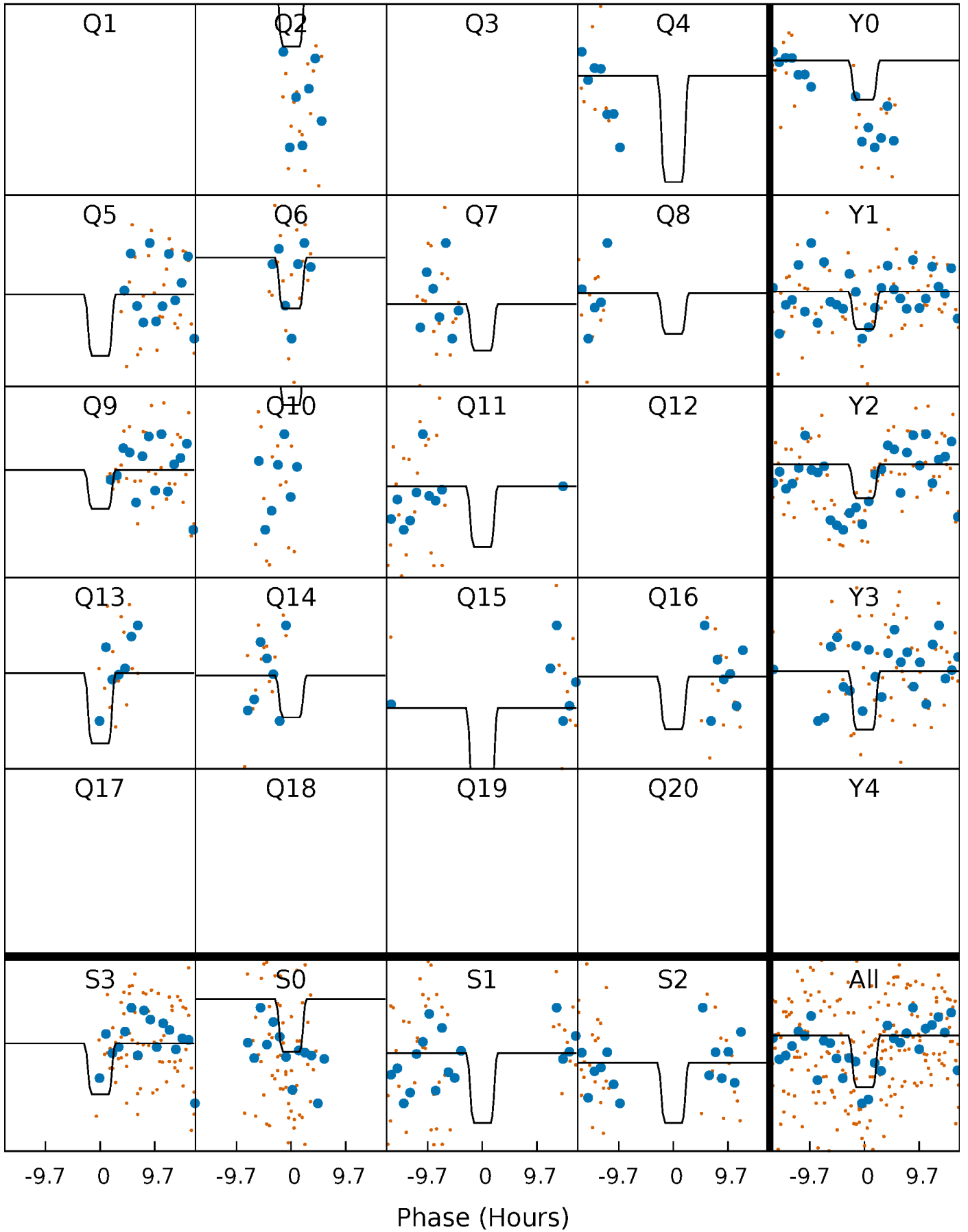
DV Quarter-Phased Transit Curves

TCE 010347630-04 P= 69.997324 Days $T_0=182.725397$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

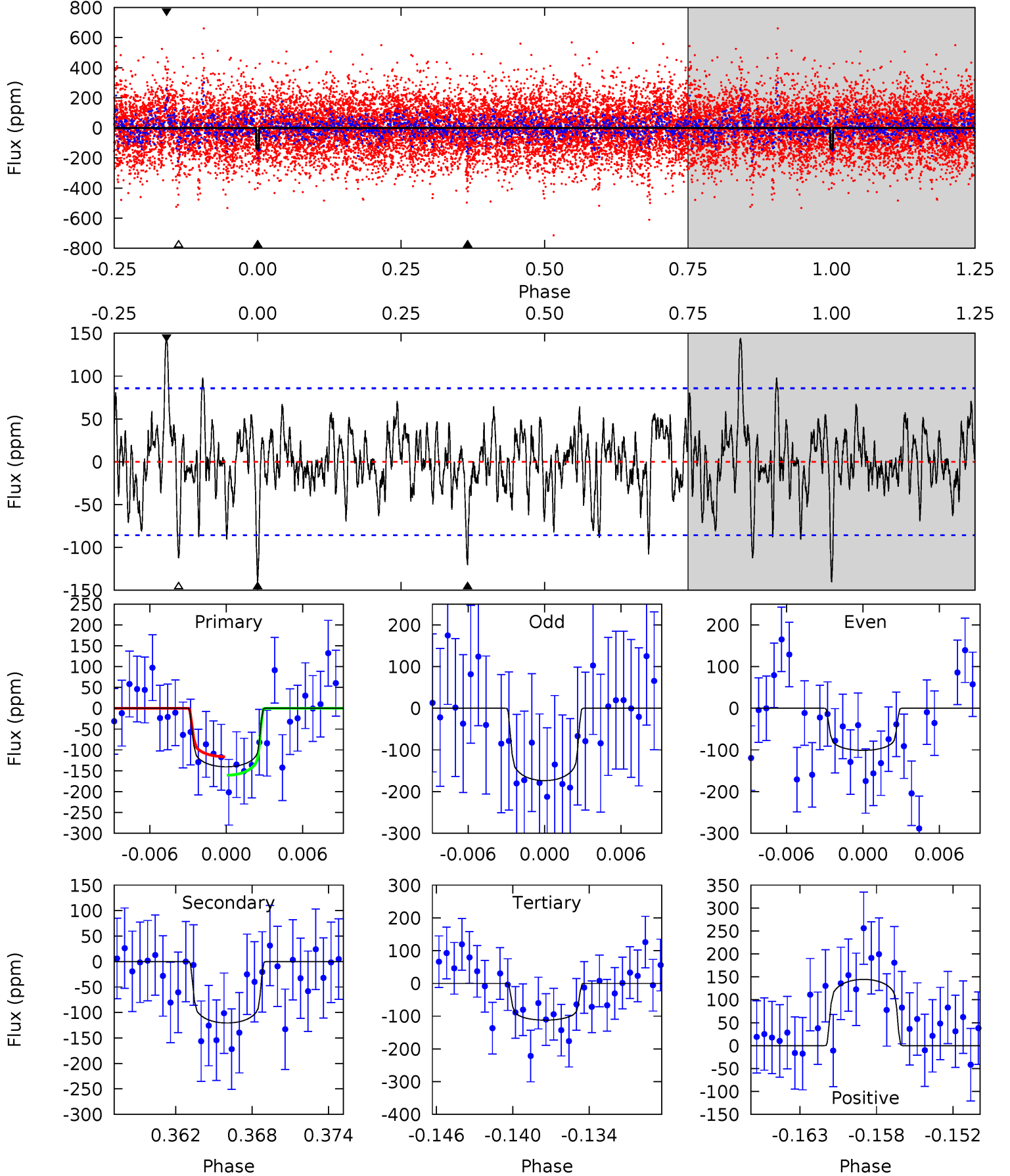
TCE 010347630-04 P= 69.997154 Days $T_0=182.748032$ (BKJD)



DV Model-Shift Uniqueness Test

010347630-04, P = 69.997324 Days, E = 112.728073 Days

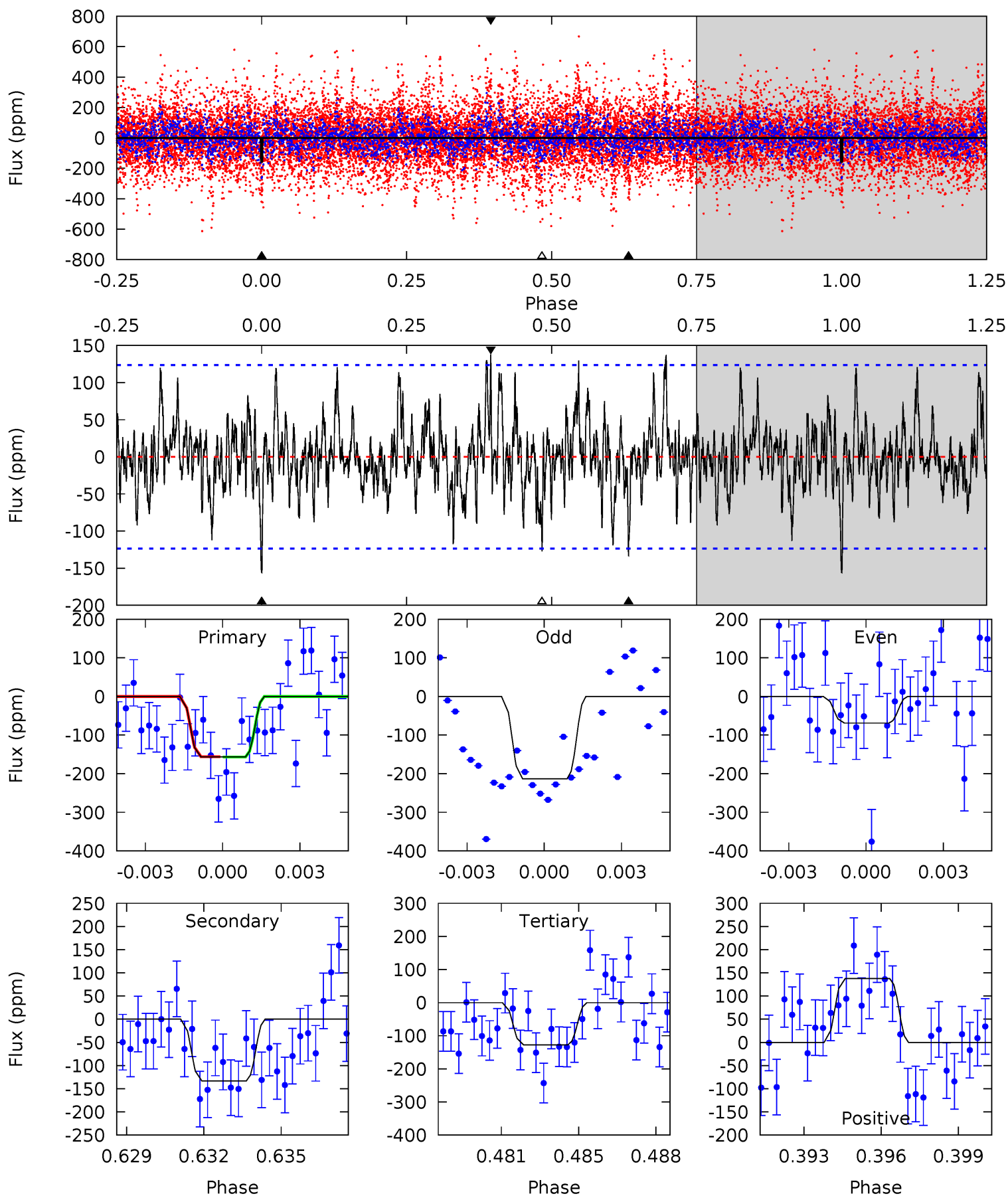
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.41	7.21	6.72	8.64	5.13	2.76	1.90	1.69	-0.23	0.49	-1.43	2.15	0.93	0.51	1.33



Alt Model-Shift Uniqueness Test

010347630-04, P = 69.997154 Days, E = 112.750878 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.65	5.66	5.41	5.85	5.25	2.96	1.75	1.24	0.80	0.25	-0.19	3.04	1.40	0.47	0.01



Stellar Parameters For KIC 010347630

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7452^{+207}_{-337}	$4.062^{+0.165}_{-0.165}$	$-0.020^{+0.200}_{-0.350}$	$1.981^{+0.558}_{-0.508}$	$1.650^{+0.189}_{-0.284}$	$0.299^{+0.263}_{-0.138}$
	+3%/-5%	+4%/-4%	+1000%/-1750%	+28%/-26%	+11%/-17%	+88%/-46%
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 010347630-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-121 ± 17	$2.75^{+1.00}_{-0.82}$	1027^{+78}_{-79}	6680^{+1648}_{-820}	1314^{+1419}_{-602}
Alt.	-133 ± 24	$2.58^{+0.98}_{-0.84}$	1026^{+79}_{-70}	7210^{+1849}_{-1085}	1624^{+2000}_{-765}

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

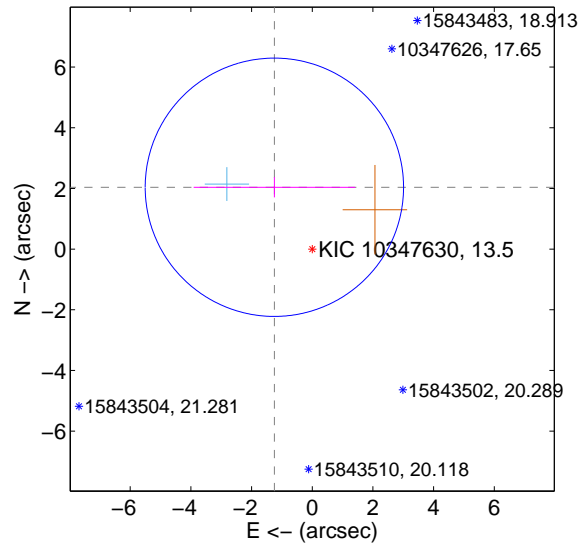
Supplemental centroid analysis for 010347630-04. Kepler magnitude: 13.50. Transit SNR 6.57

There are 1 quarters with good PRF difference image offsets

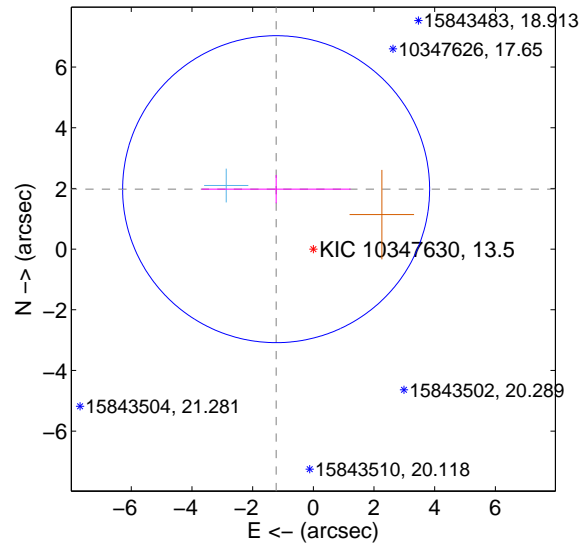
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.390 ± 1.419	1.68	1.248 ± 2.661	2.038 ± 0.334
PRF-fit source offset from KIC position	2.325 ± 1.686	1.38	1.226 ± 2.456	1.975 ± 0.464
photometric centroid source offset	1.07 ± 0.77	1.39	-0.52 ± 0.70	-0.93 ± 0.79

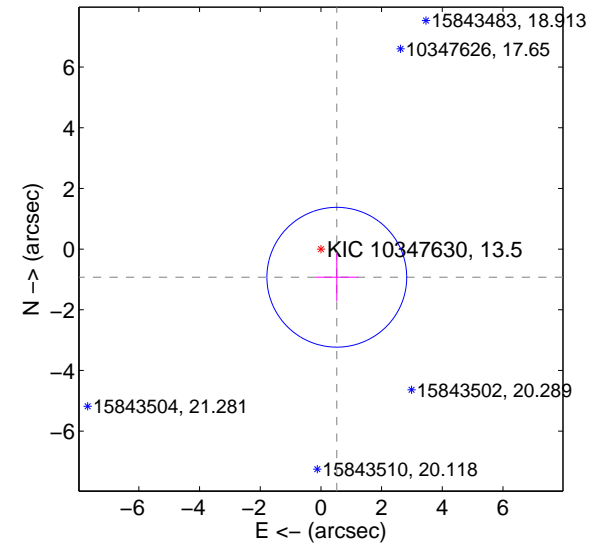
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



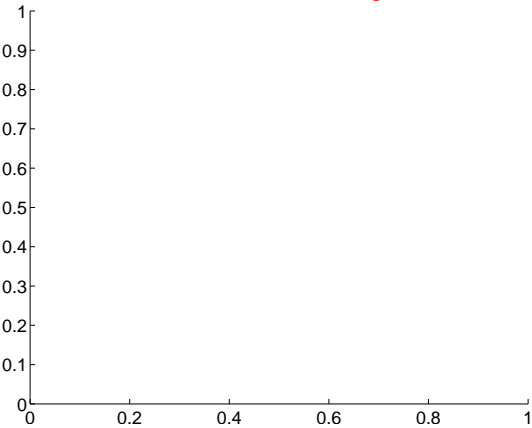
offset from photometric centroids



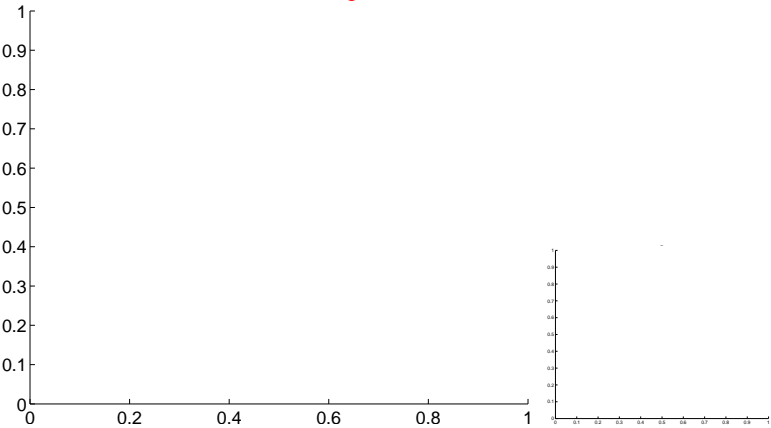
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

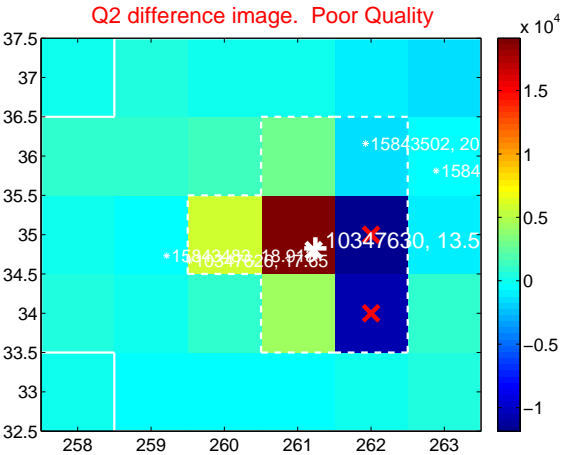
Q1 no difference image



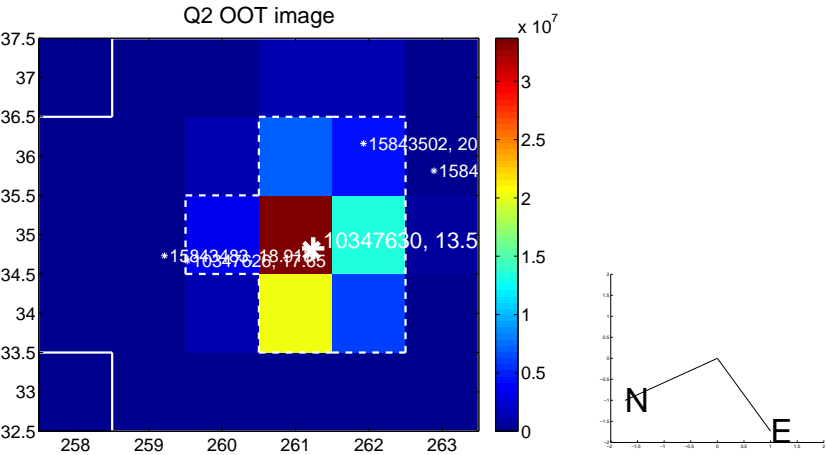
Q1 no OOT image



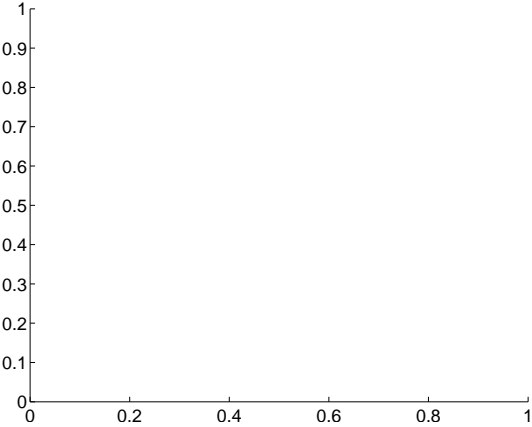
Q2 difference image. Poor Quality



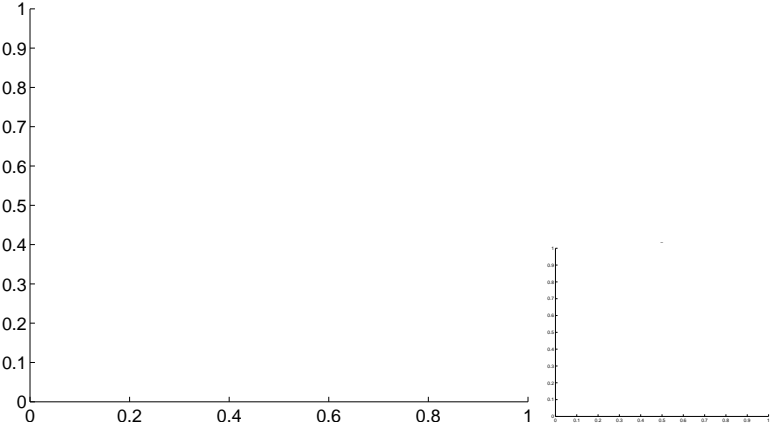
Q2 OOT image



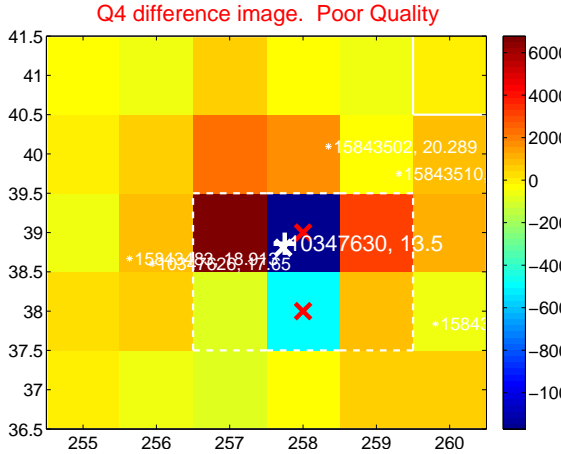
Q3 no difference image



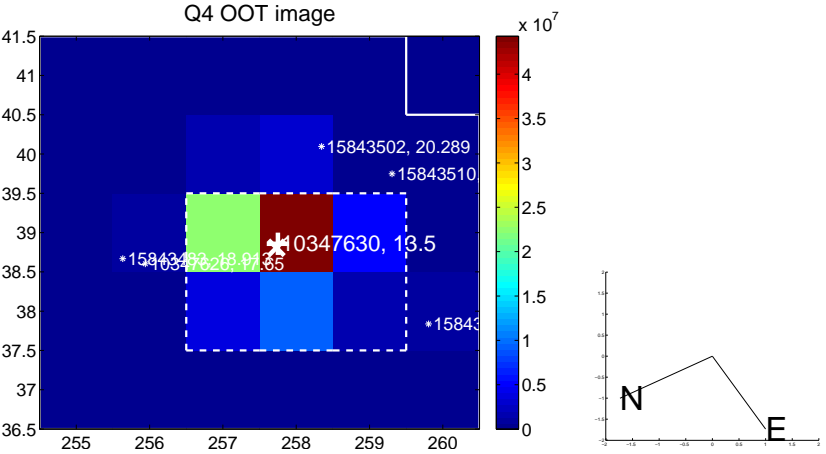
Q3 no OOT image



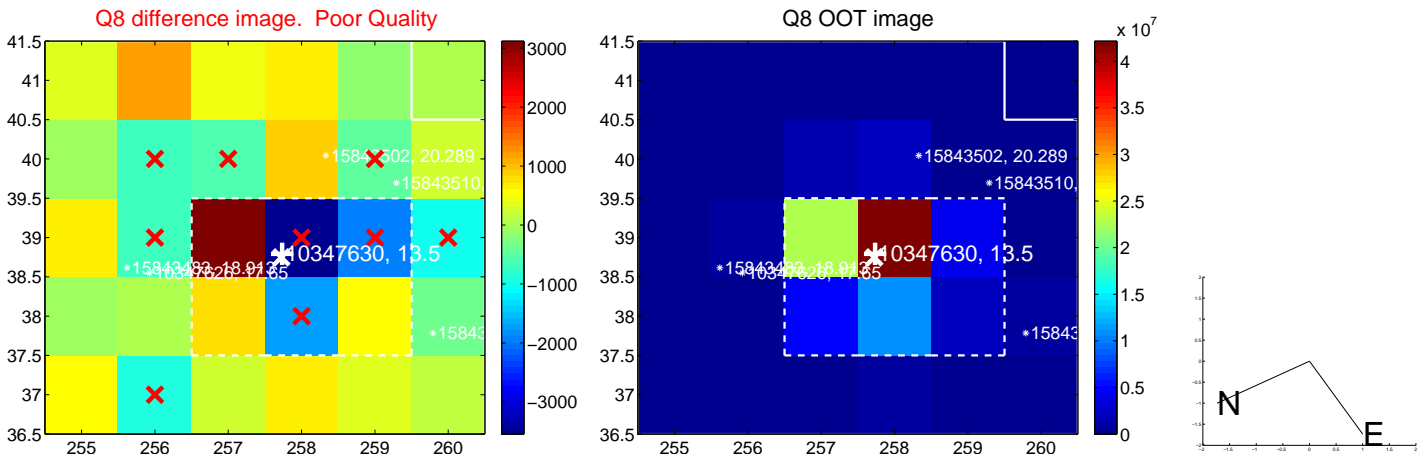
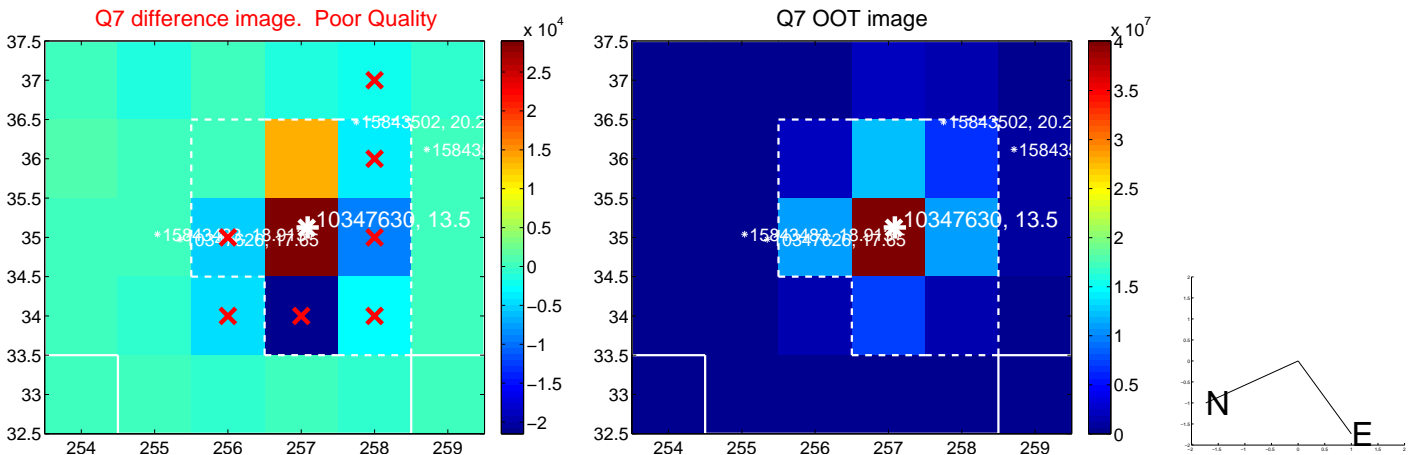
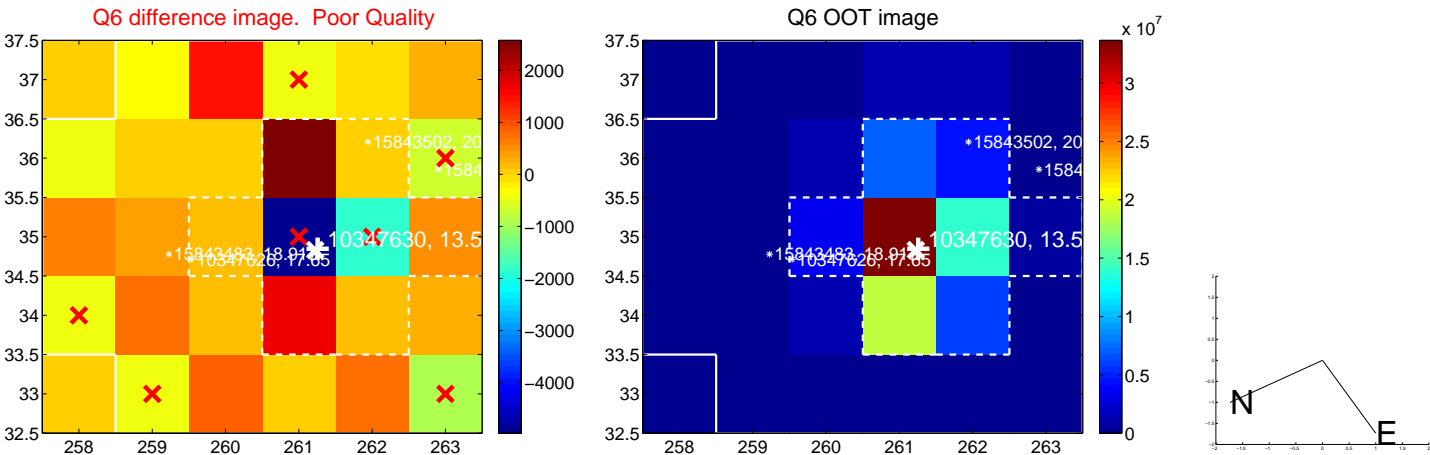
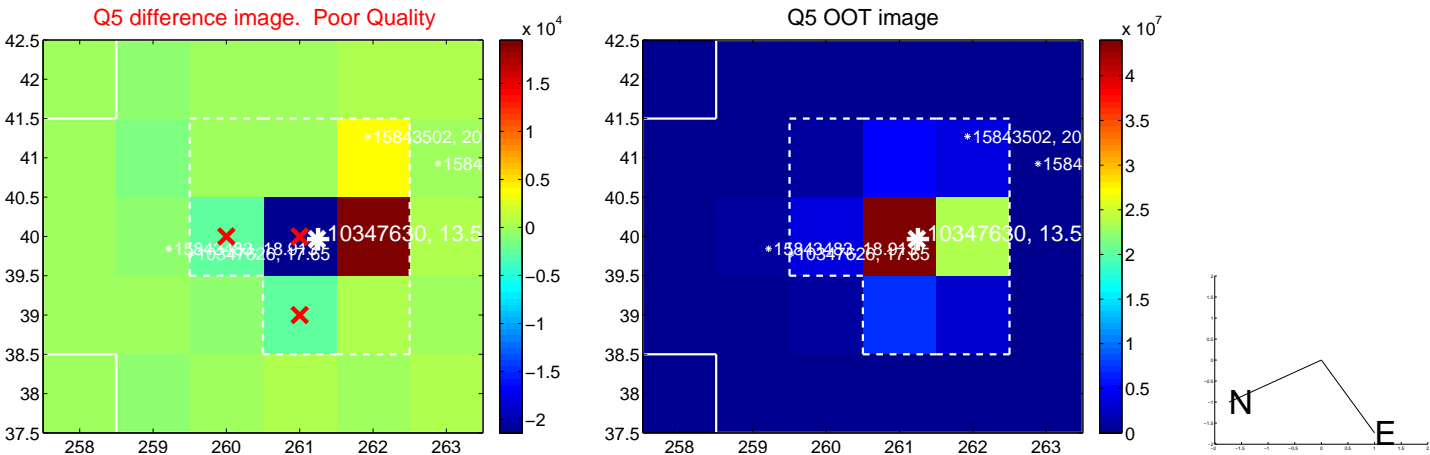
Q4 difference image. Poor Quality



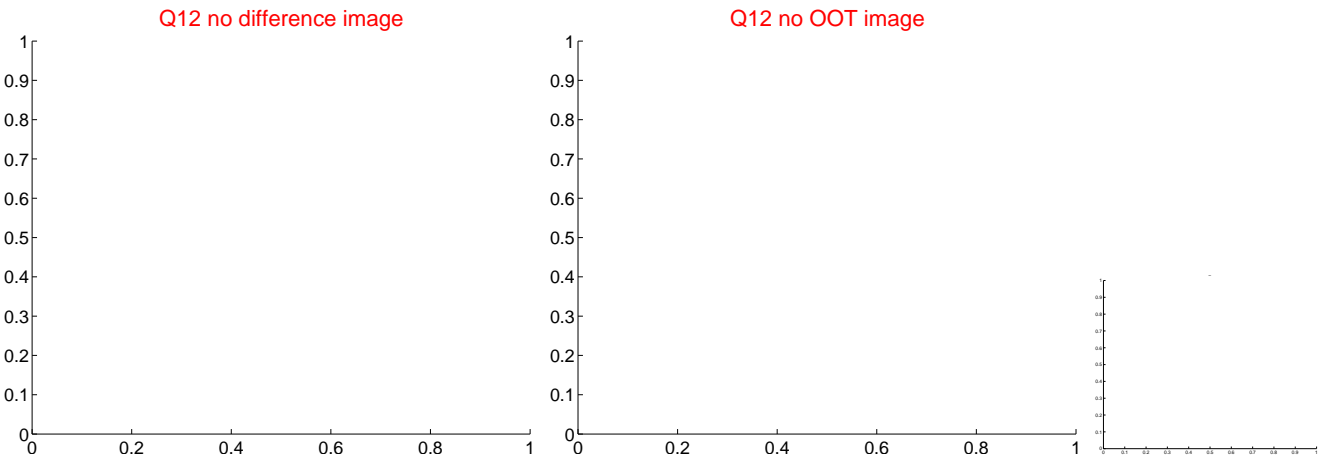
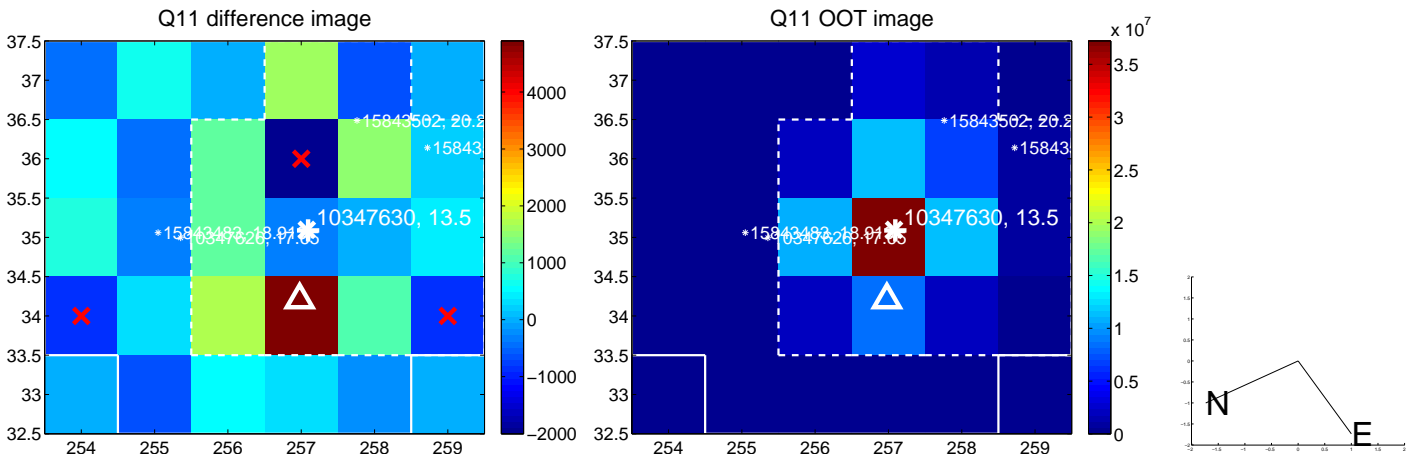
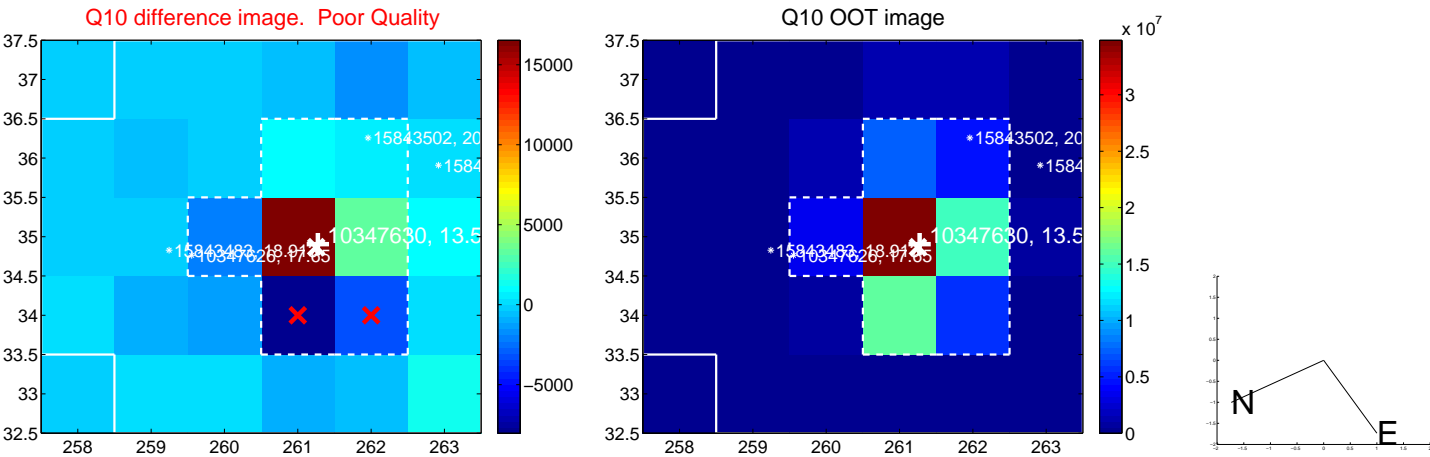
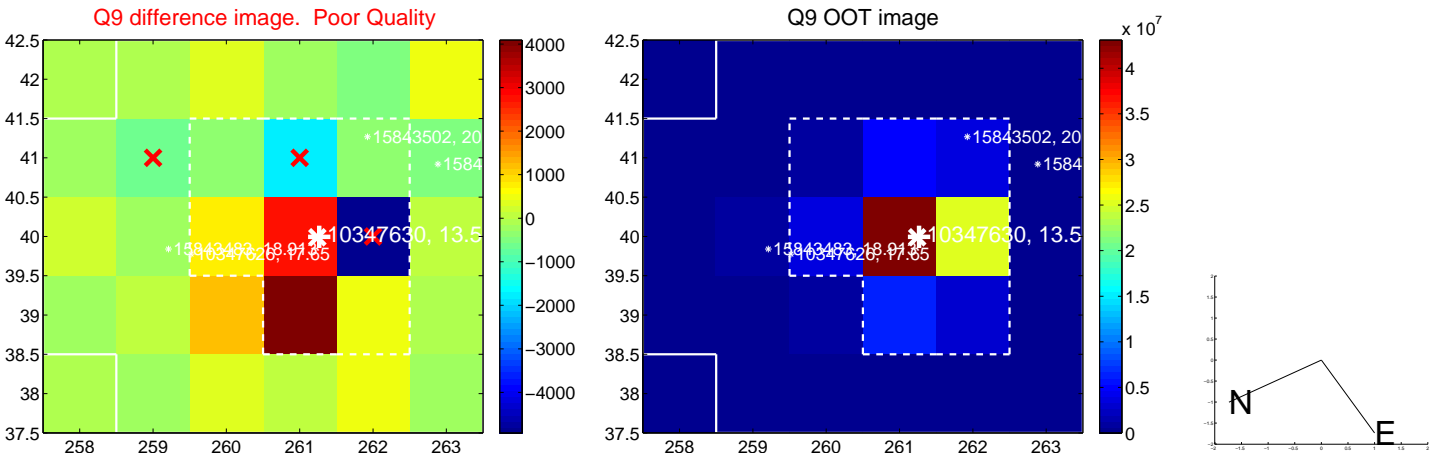
Q4 OOT image



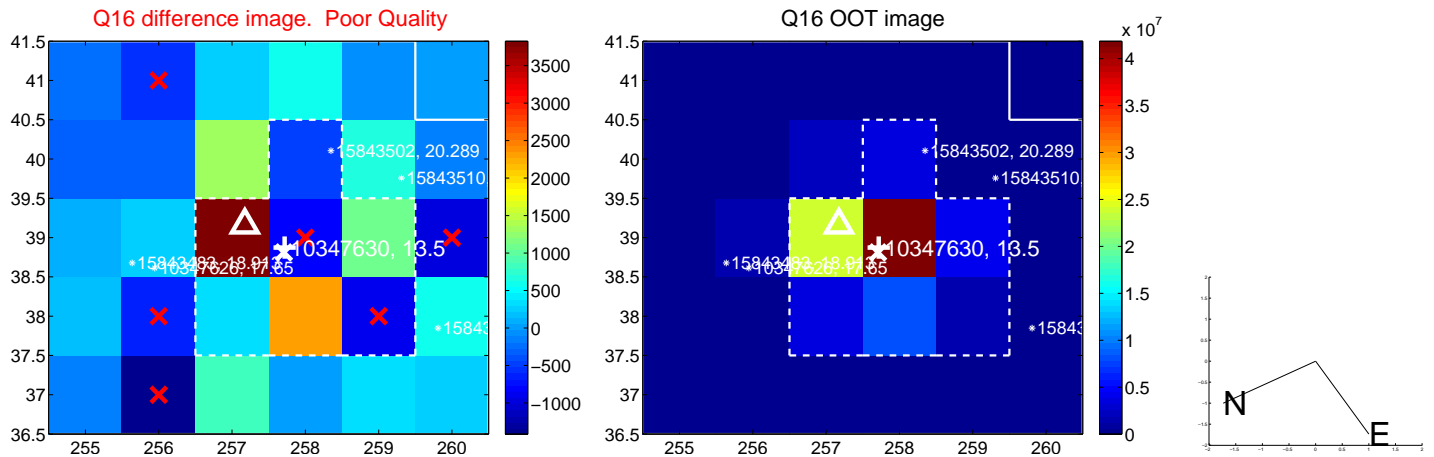
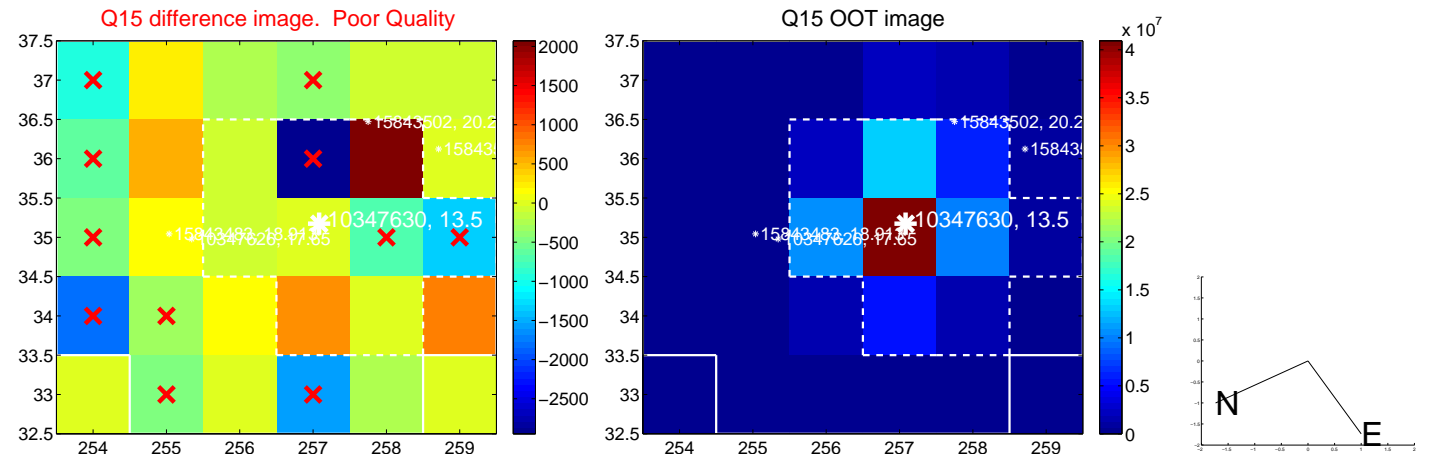
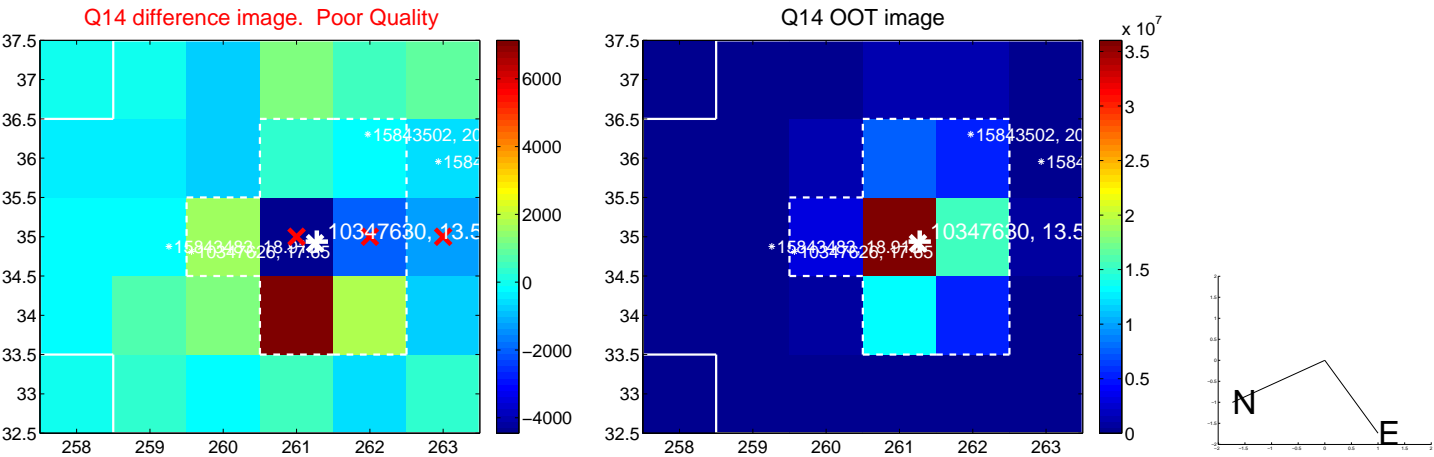
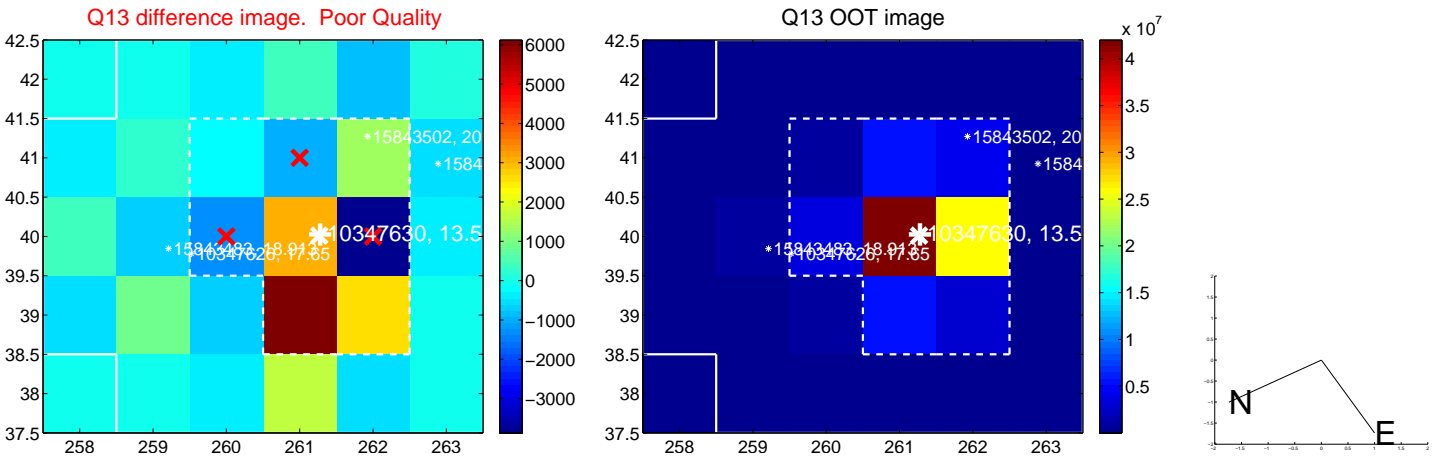
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



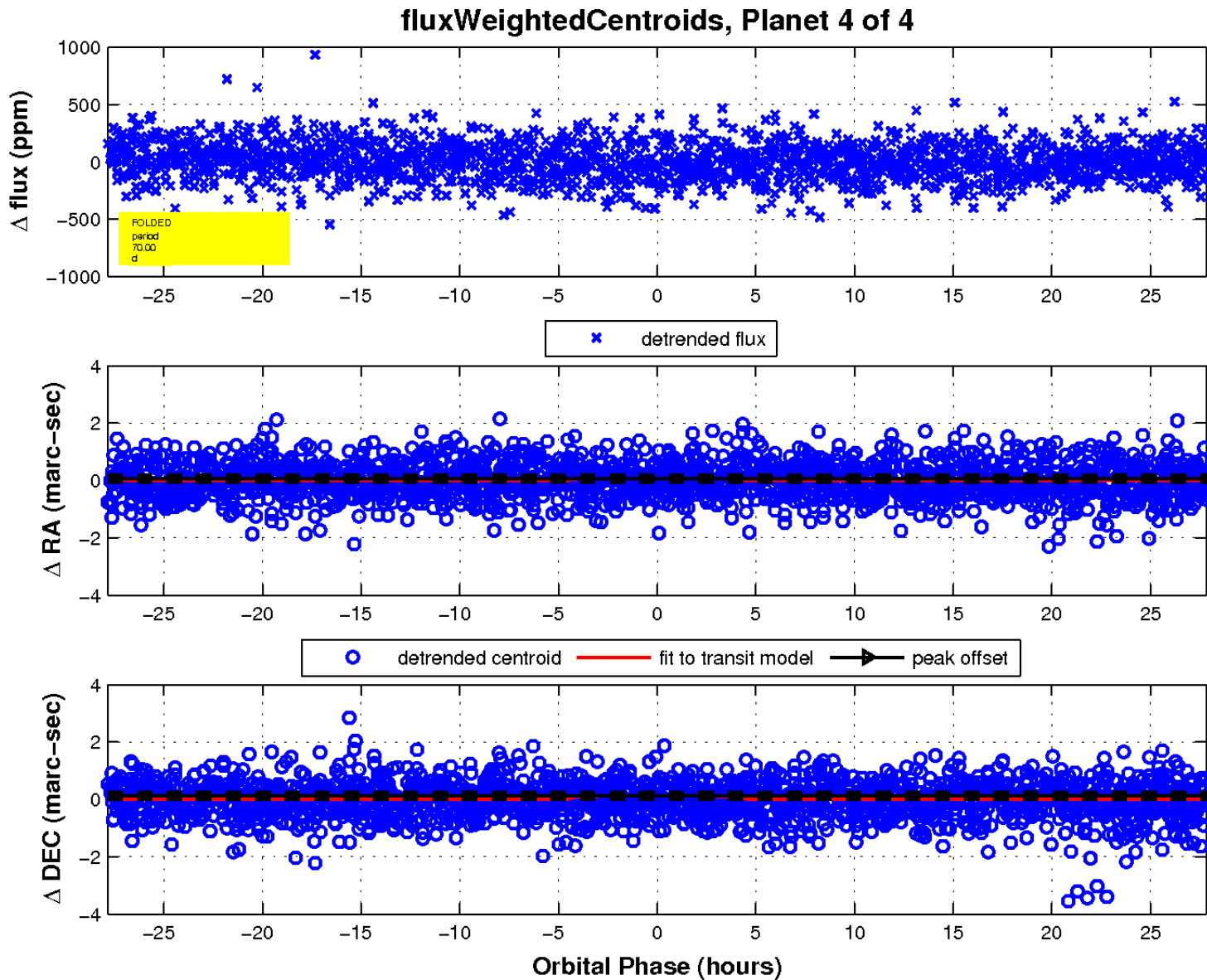
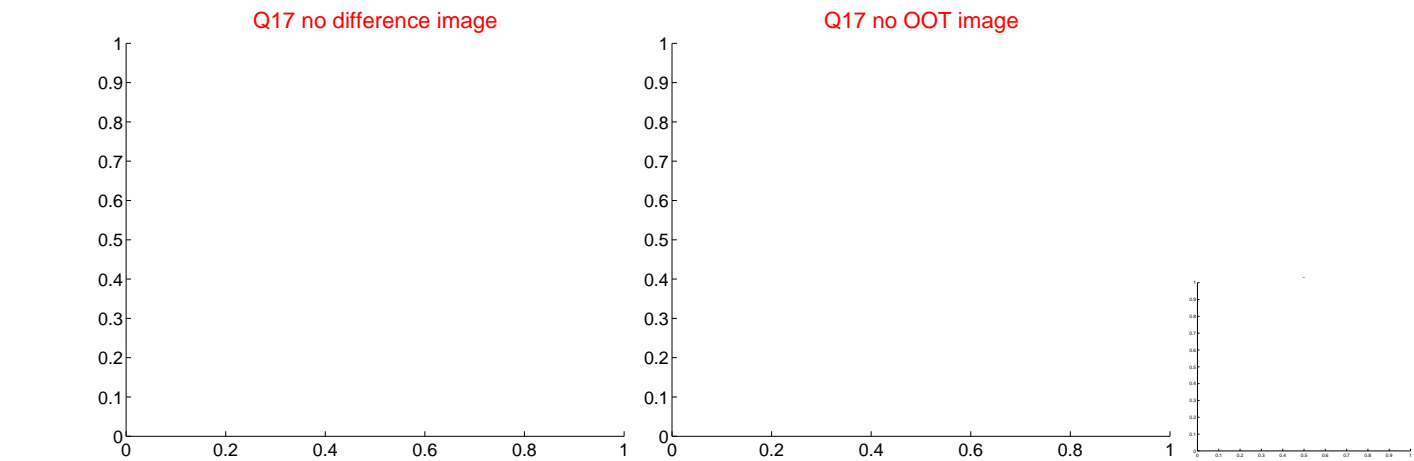
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

