

KIC 007749318

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})
007749318-01	OBS	6042.01	2.371593	132.742065	232394.4	3.546	9092.2	5037.7	0.60	5340	30.44	279.85
007749318-02	OBS	No	2.371569	131.524616	5039.7	4.500	685.1	-1.0	0.60	5340	4.24	279.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007749318-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
007749318-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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 007749318-01

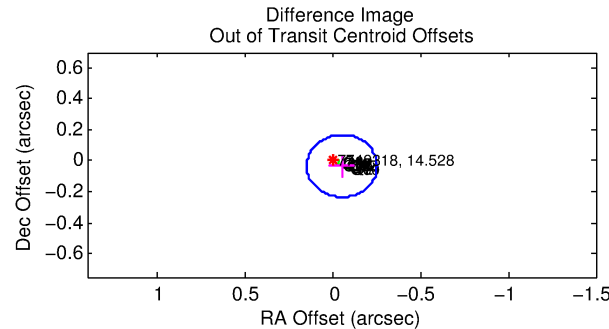
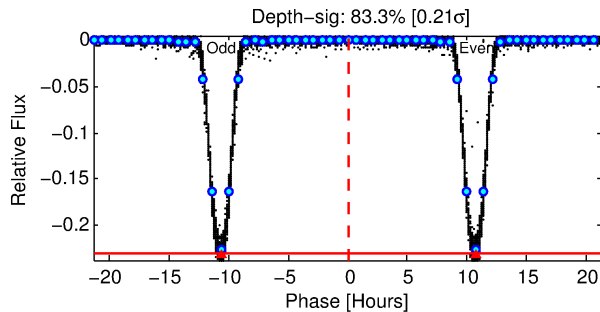
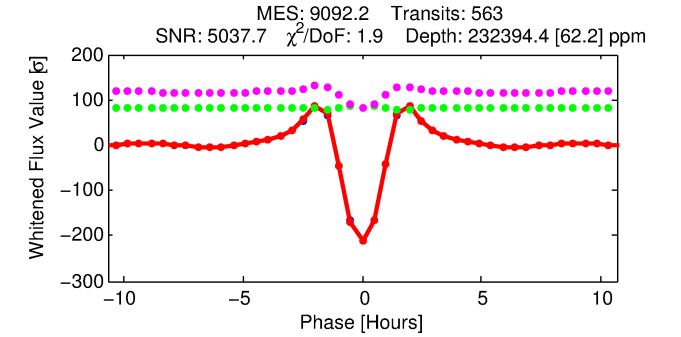
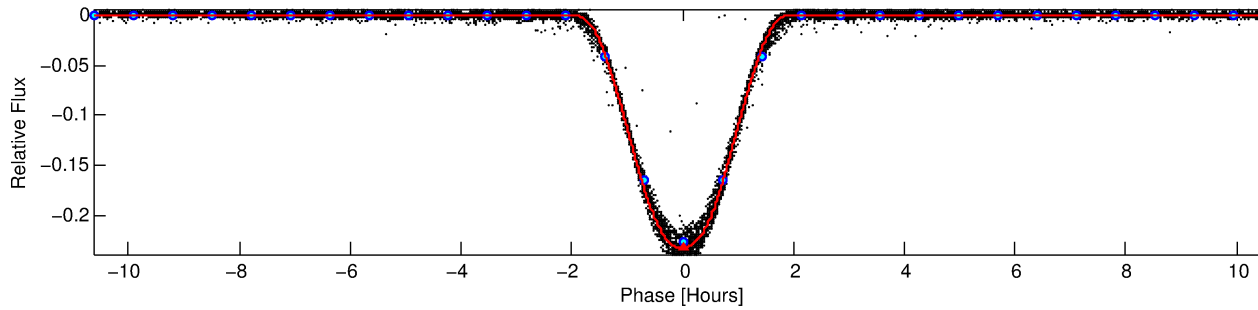
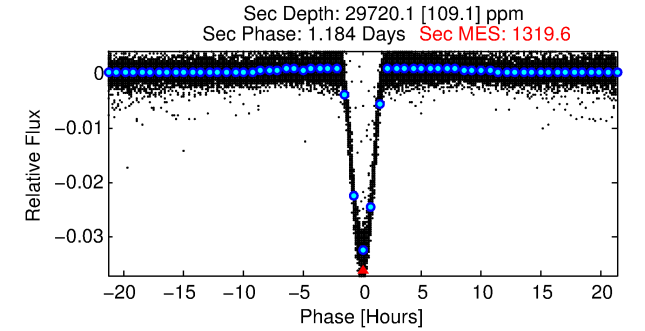
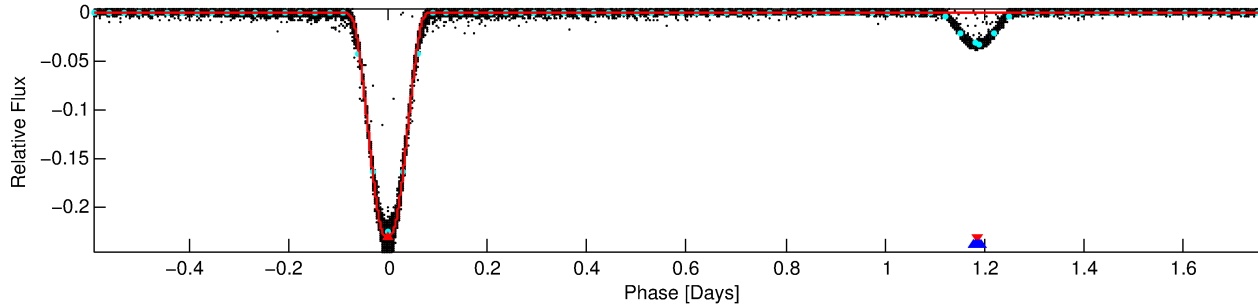
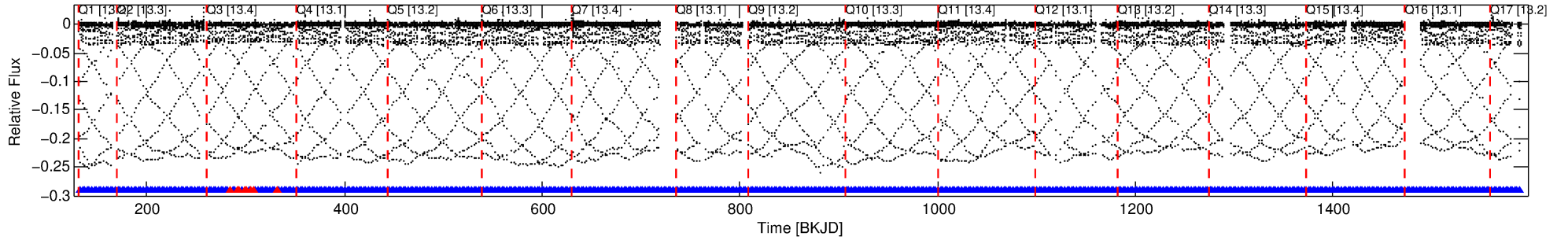
No Significant Match Found

DV One-Page Summary

KIC: 7749318 Candidate: 1 of 2 Period: 2.372 d

KOI: K06042.01 Corr: 0.980

Kp: 14.53 R*: 0.60 Rs Teff: 5340.0 K Logg: 4.71 Fe/H: -1.000



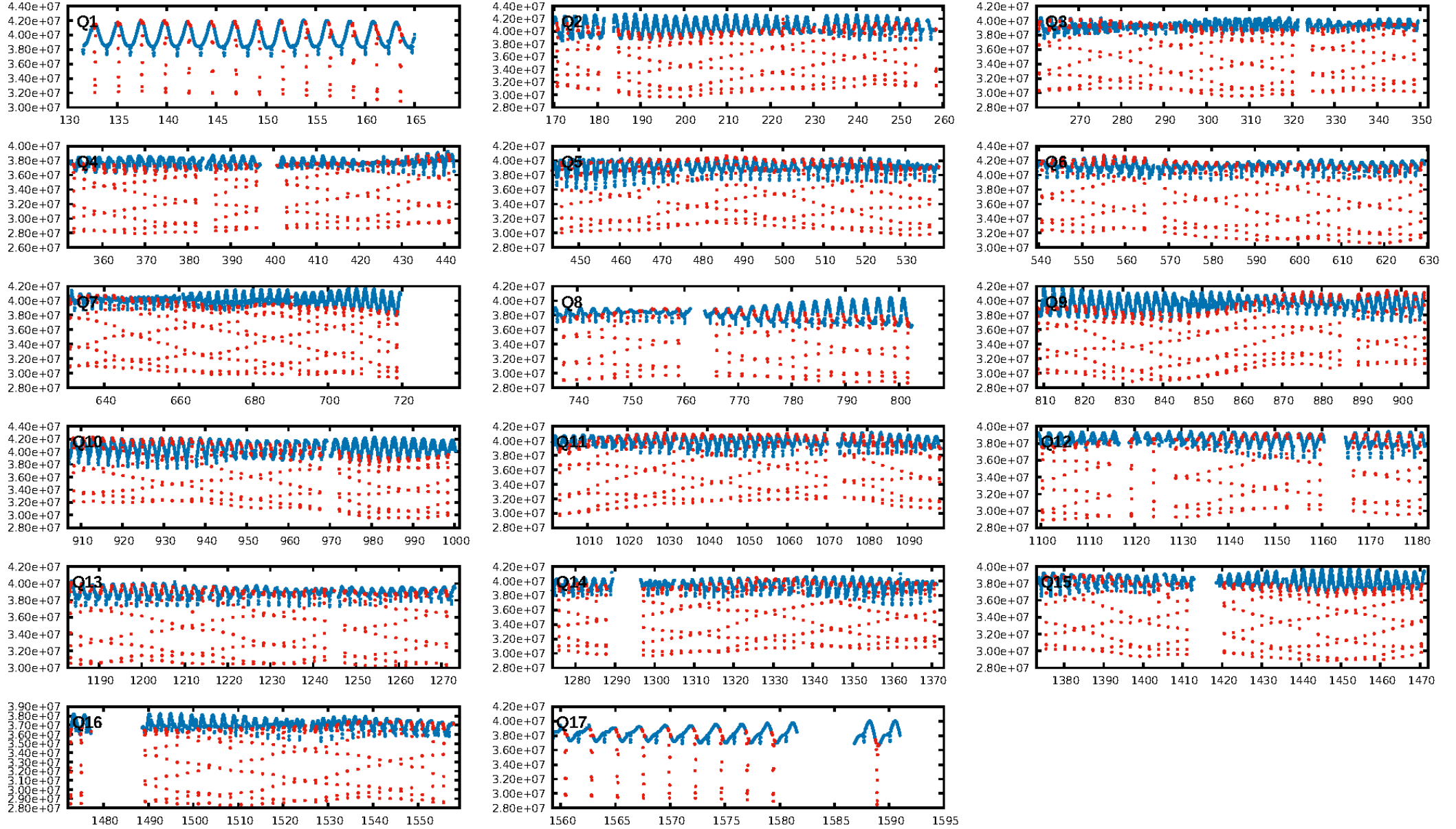
DV Fit Results:

Period = 2.37159 [0.00000] d
Epoch = 132.7421 [0.0000] BKJD
Rp/R* = 0.4641 [0.0001]
a/R* = 7.10 [0.00]
b = 0.49 [0.00]
Seff = 279.85 [53.90]
Teff = 1043 [50] K
Rp = 30.44 [3.39] Re
a = 0.0307 [0.0030] AU
Ag = 16.59 [2.49] [6.26σ]
Teffp = 3255 [98] K [20.06σ]

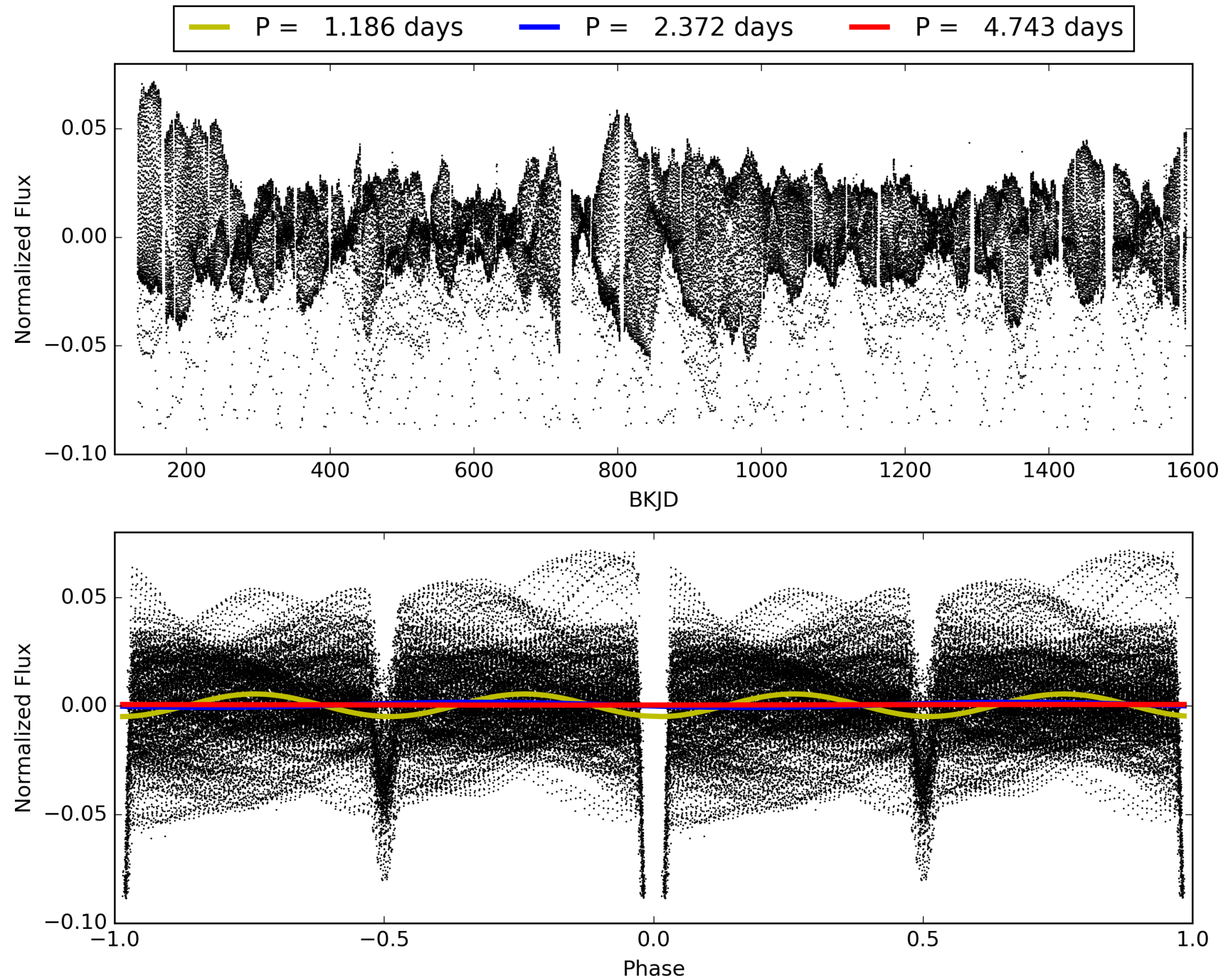
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [531/539]
GhostDiagnostic-chr: 1.391
Centroid-sig: 0.0%
Centroid-so: 0.029 arcsec [48.80σ]
OotOffset-rm: 0.061 arcsec [0.92σ]
KicOffset-rm: 0.032 arcsec [0.48σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007749318-01, PDC Light Curves

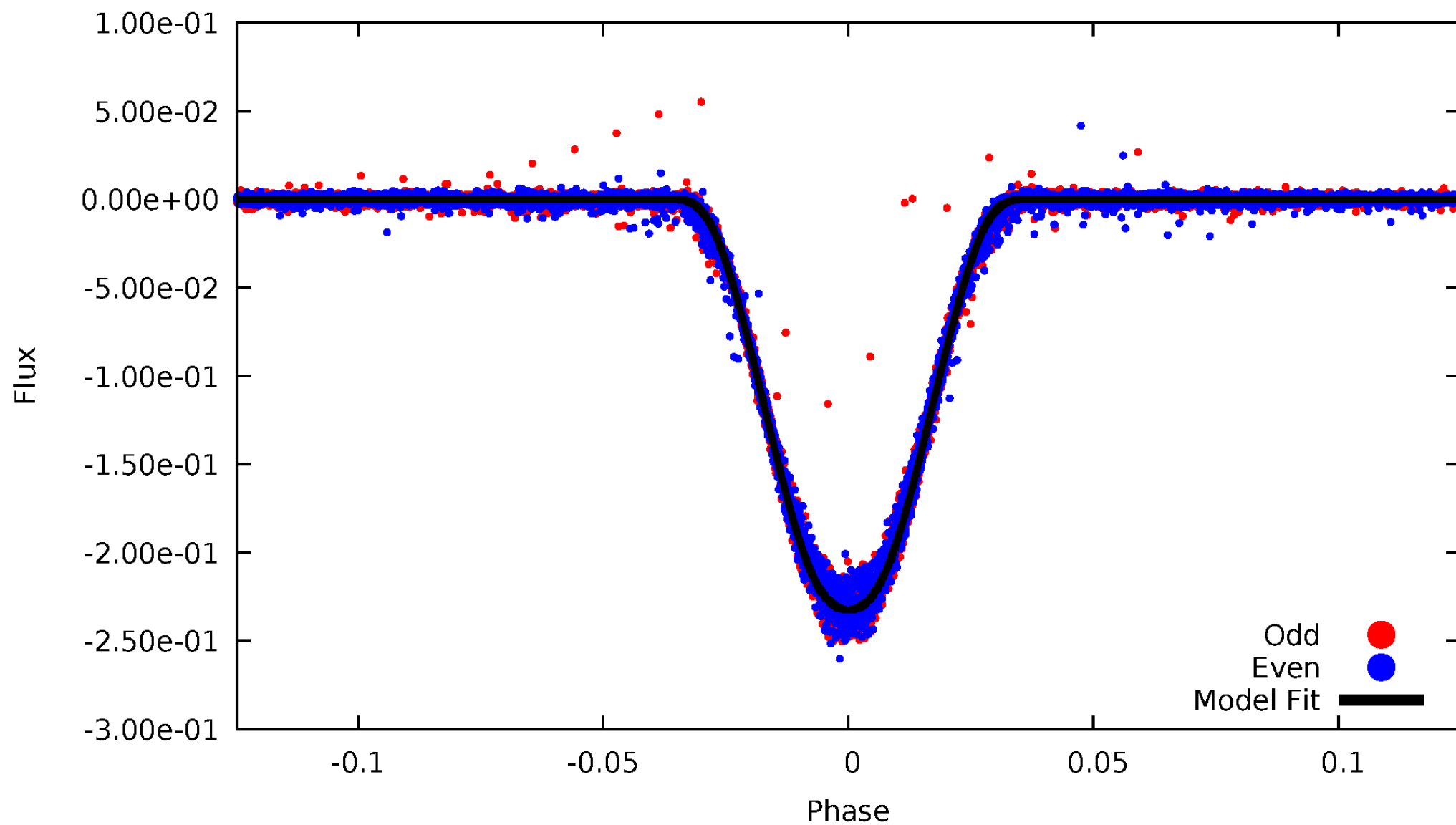


TCE 007749318-01



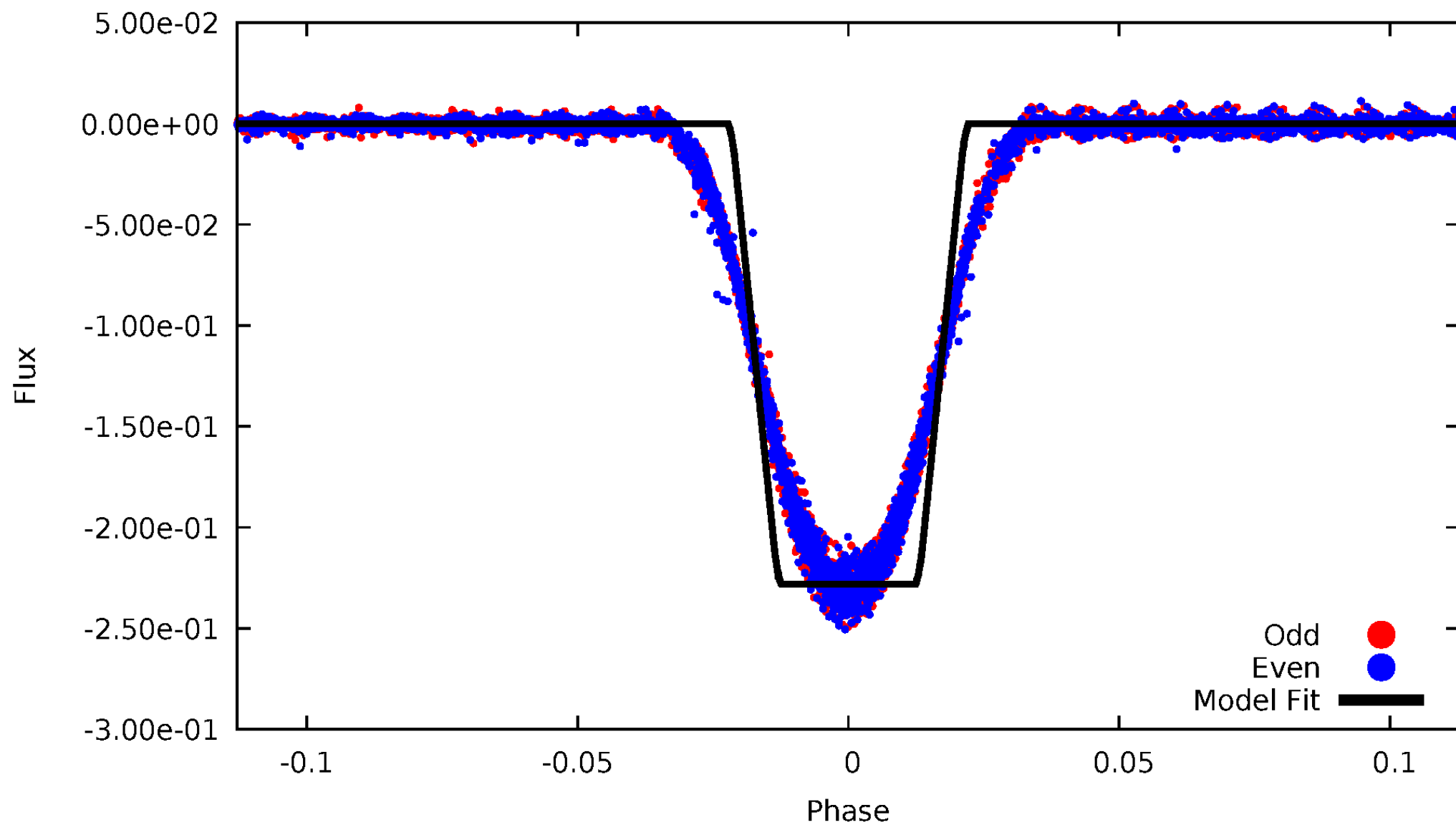
DV Odd/Even

TCE 007749318-01



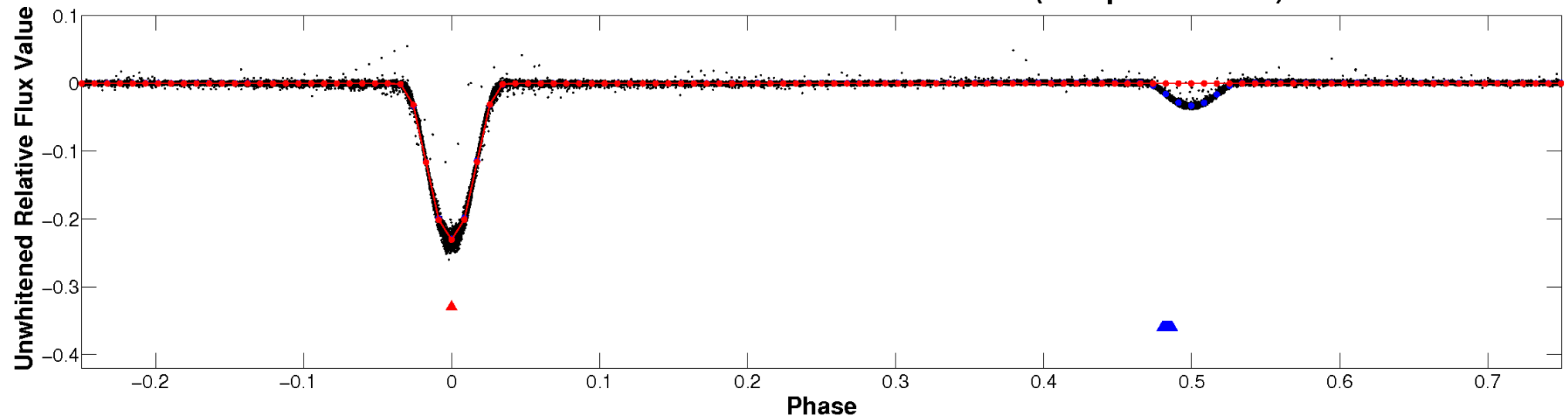
ALT Odd/Even

TCE 007749318-01

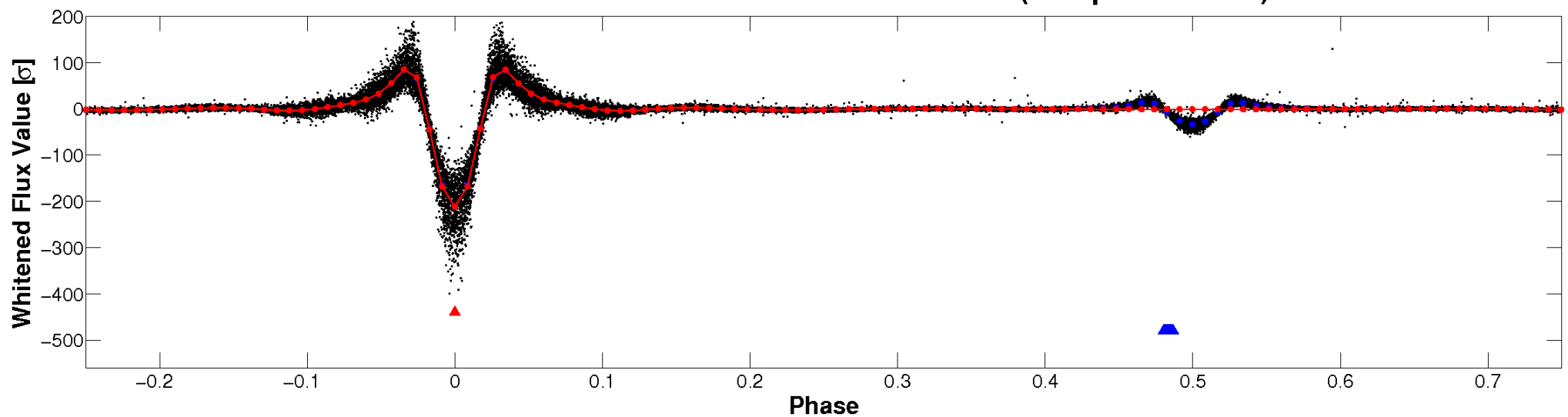


Non-Whitened Vs. Whitened Light Curve

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

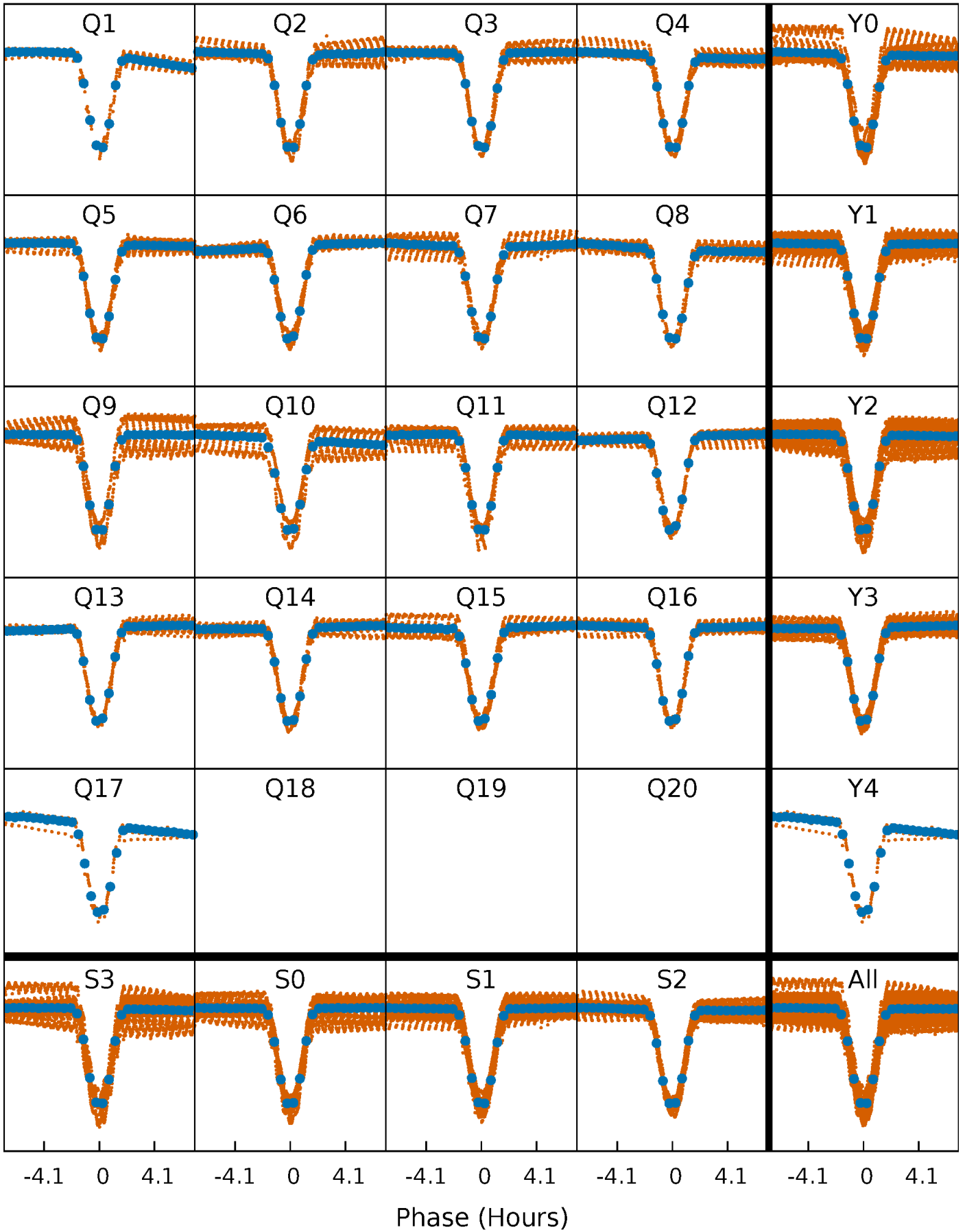


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



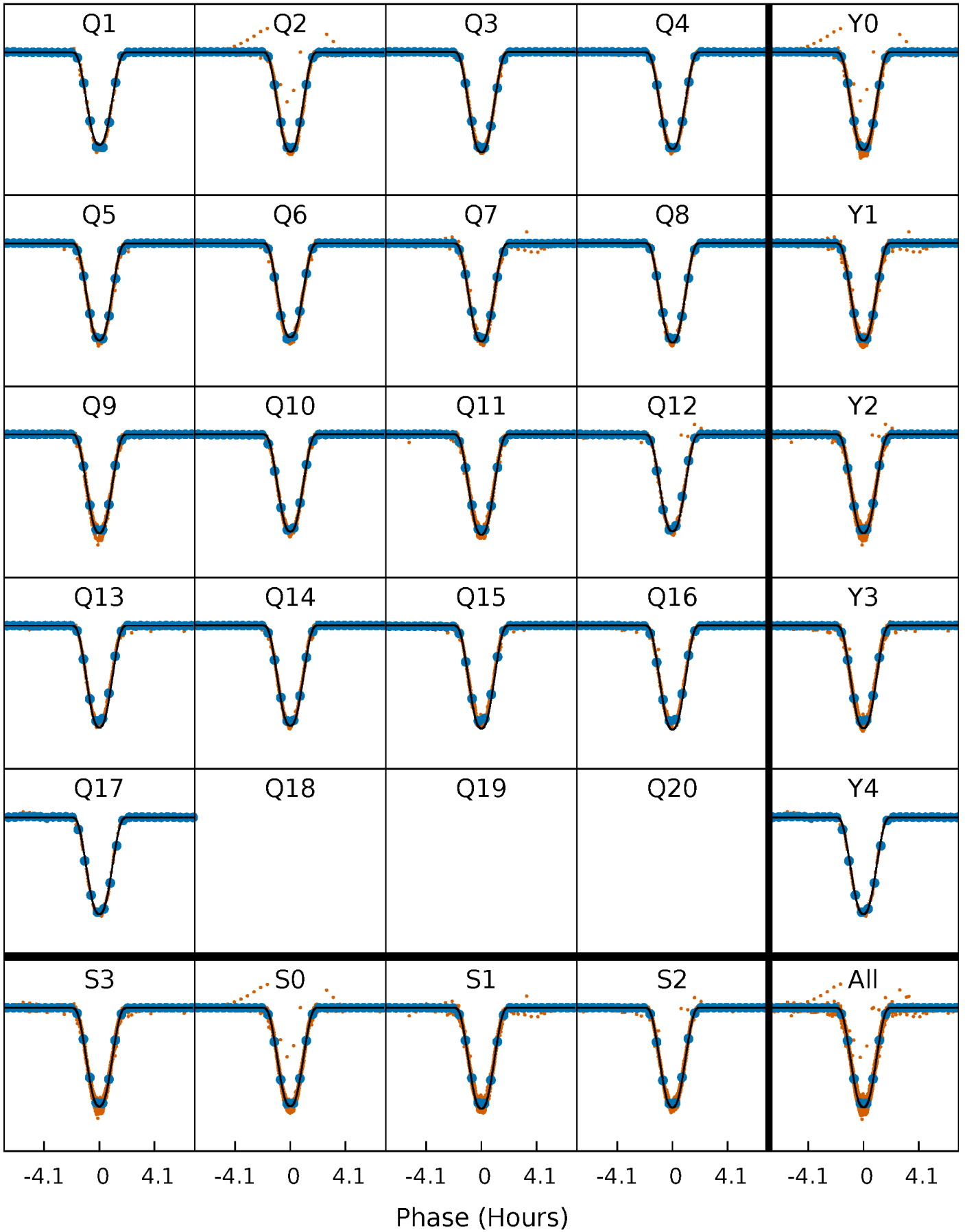
PDC Quarter-Phased Transit Curves

TCE 007749318-01 P= 2.371593 Days $T_0=132.742065$ (BKJD)



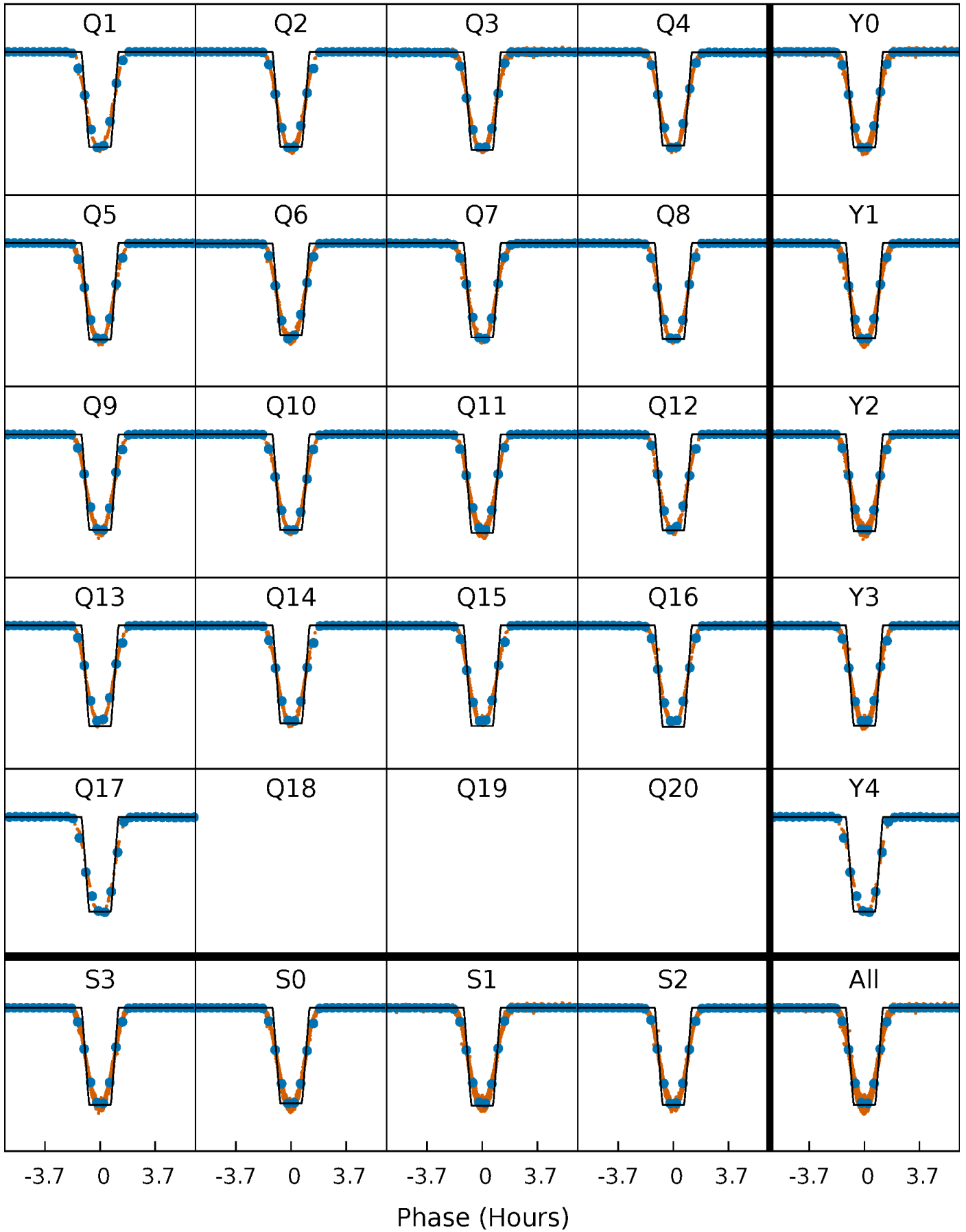
DV Quarter-Phased Transit Curves

TCE 007749318-01 P= 2.371593 Days $T_0=132.742065$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

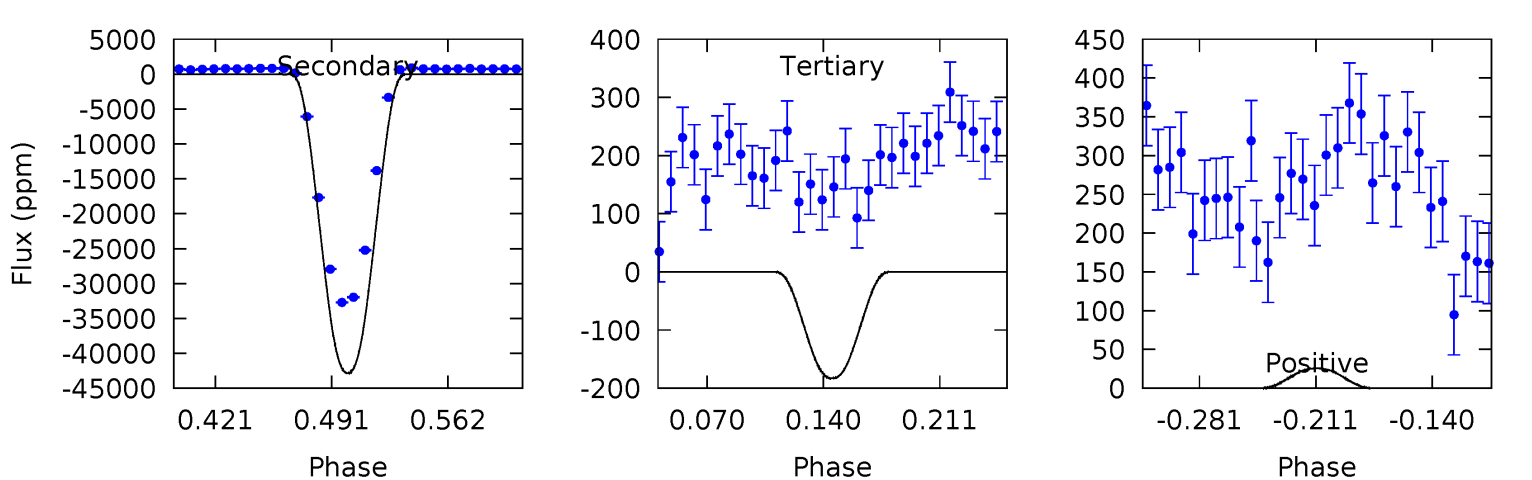
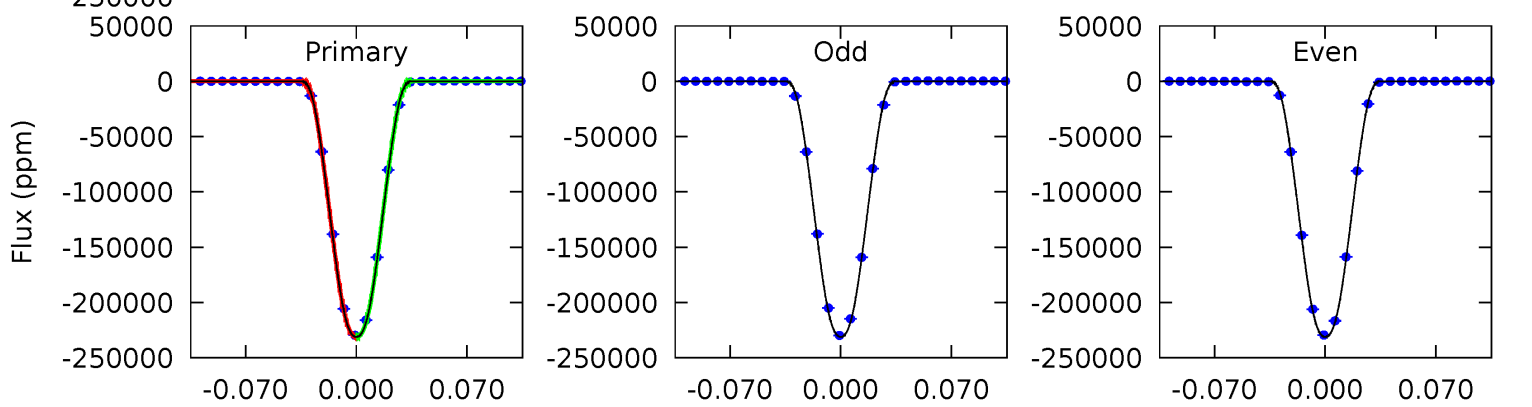
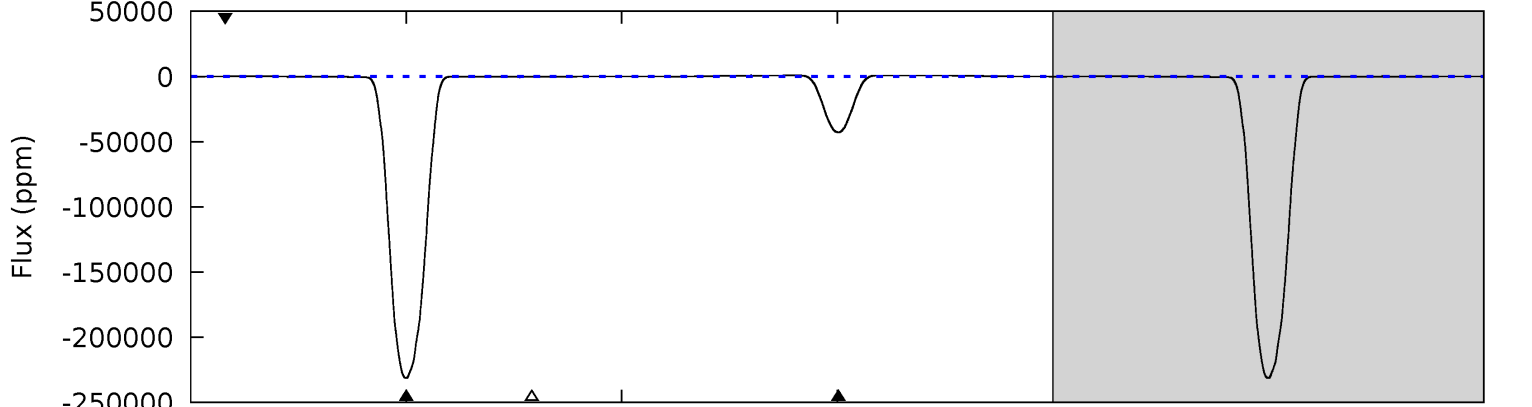
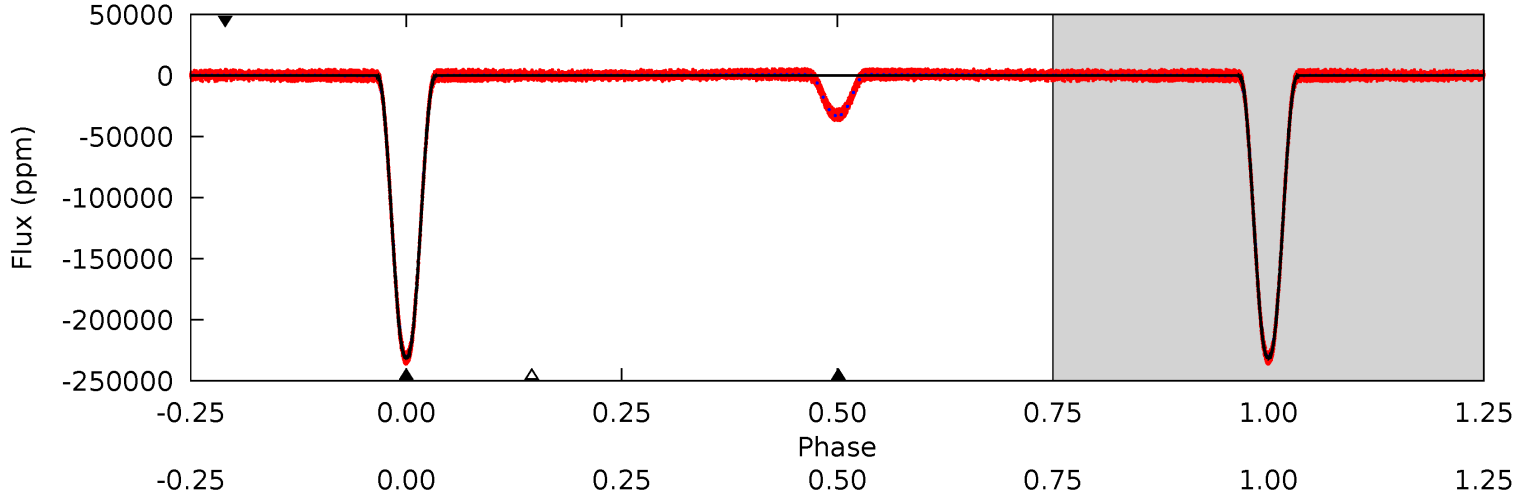
TCE 007749318-01 P= 2.371588 Days $T_0=132.743633$ (BKJD)



DV Model-Shift Uniqueness Test

007749318-01, P = 2.371593 Days, E = 130.370472 Days

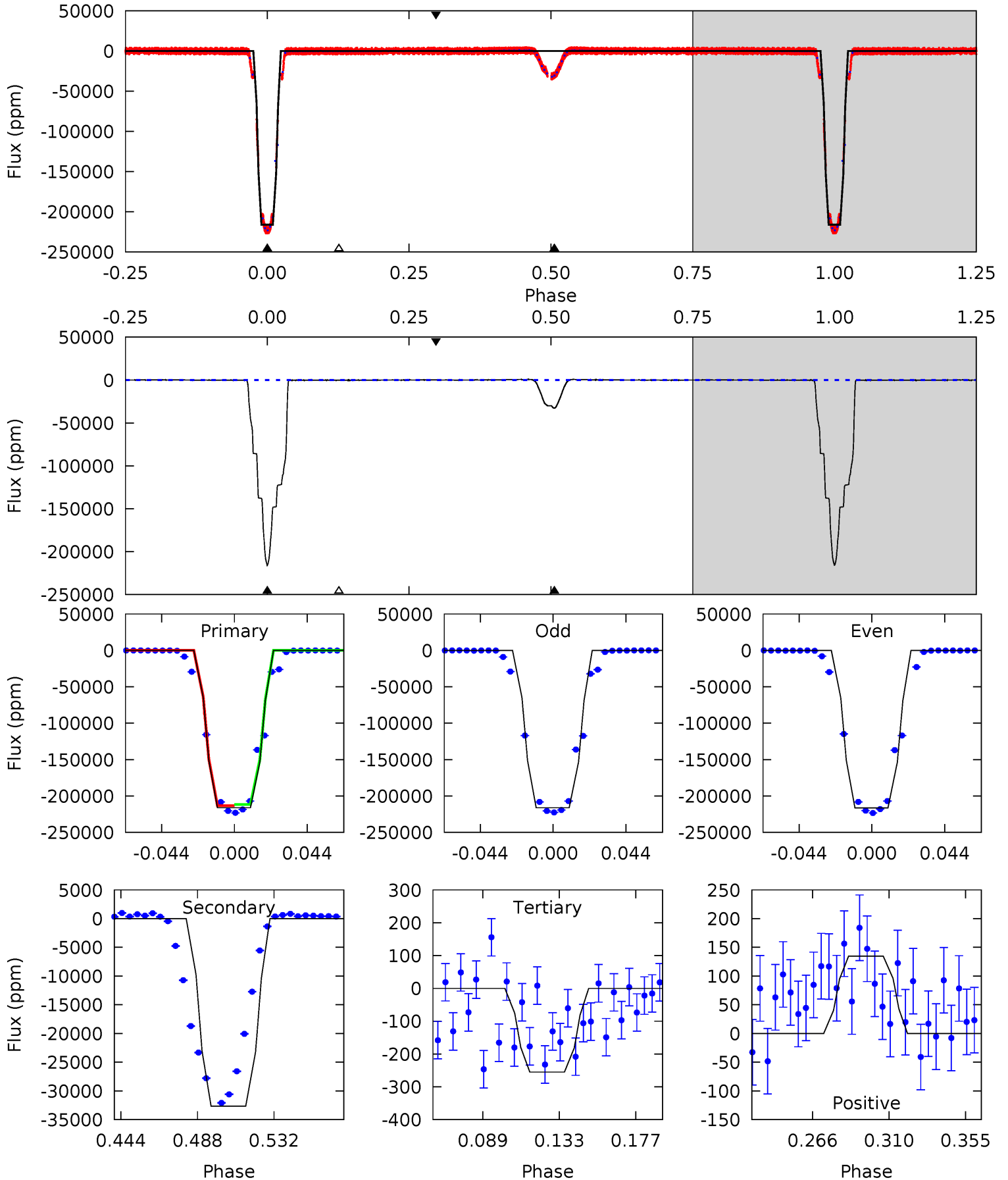
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9829	1822	7.78	1.09	4.64	1.81	12.2	9821	9828	1814	1821	2.02	1.00	0.00	2.67



Alt Model-Shift Uniqueness Test

007749318-01, P = 2.371588 Days, E = 130.372045 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4635	700.6	5.47	2.89	4.73	2.01	3.81	4630	4632	695.1	697.7	2.55	1.00	0.00	0



Stellar Parameters For KIC 007749318

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5340^{+161}_{-145}	$4.715^{+0.015}_{-0.085}$	$-1.000^{+0.300}_{-0.300}$	$0.601^{+0.067}_{-0.027}$	$0.685^{+0.042}_{-0.047}$	$4.432^{+0.341}_{-1.137}$
	+3%/-3%	+0%/-2%	+30%/-30%	+11%/-4%	+6%/-7%	+8%/-26%
Source	PHO1	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 007749318-01 / KOI 6042.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-42846 ± 24	$30.95^{+1.95}_{-1.07}$	1481^{+53}_{-48}	3915^{+88}_{-82}	24^{+1}_{-2}
Alt.	-32664 ± 47	$31.93^{+1.88}_{-1.14}$	1482^{+55}_{-50}	3695^{+83}_{-75}	17^{+1}_{-2}

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

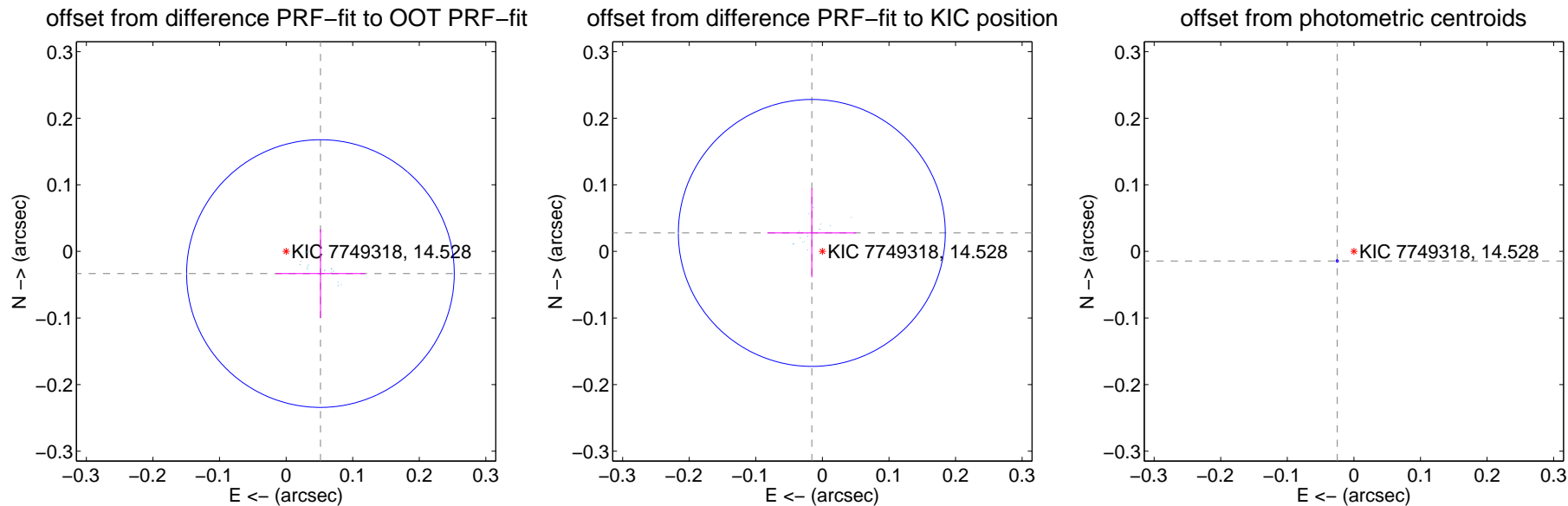
DV Centroid Data

Supplemental centroid analysis for 007749318-01. Kepler magnitude: 14.53. Transit SNR 5037.67

There are 17 quarters with good PRF difference image offsets

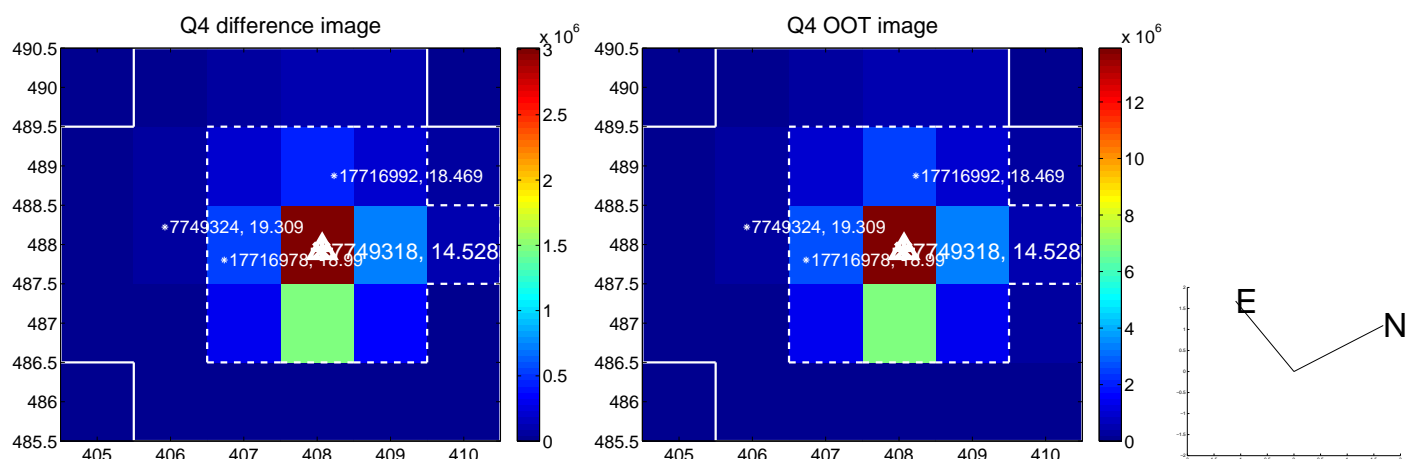
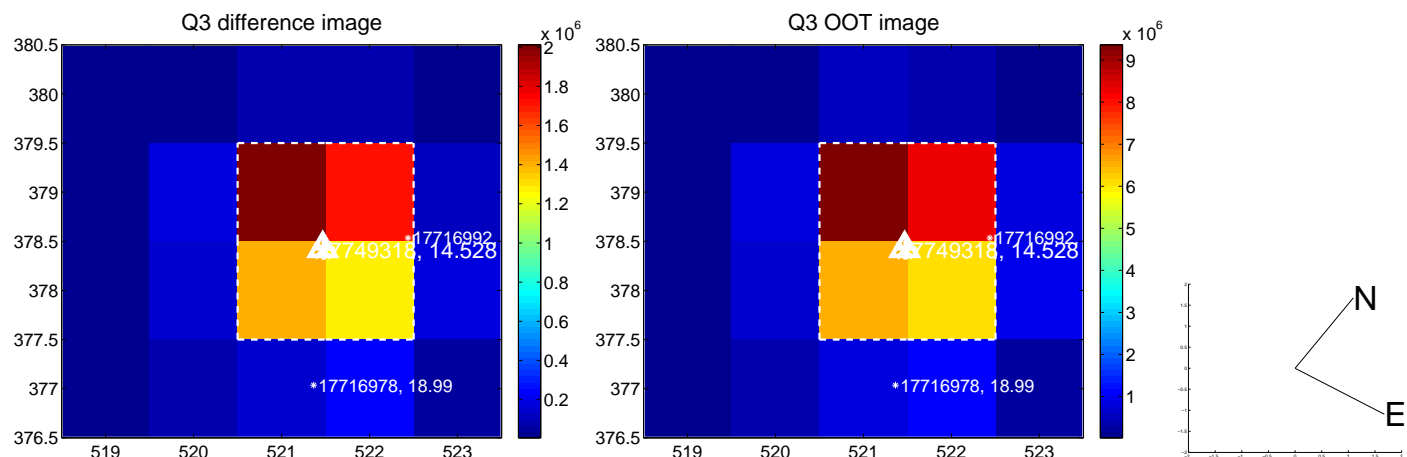
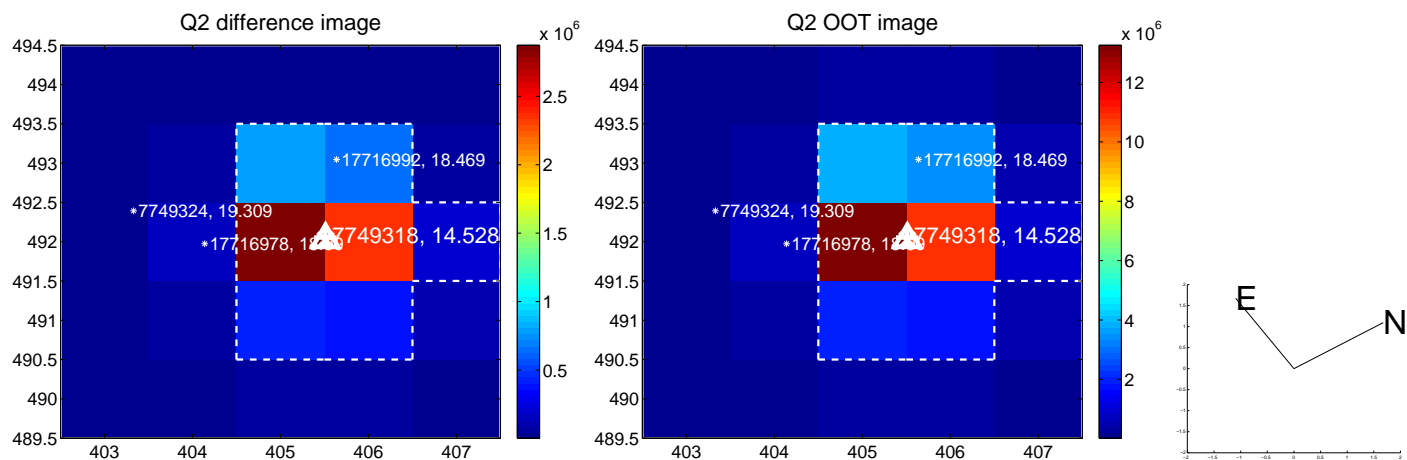
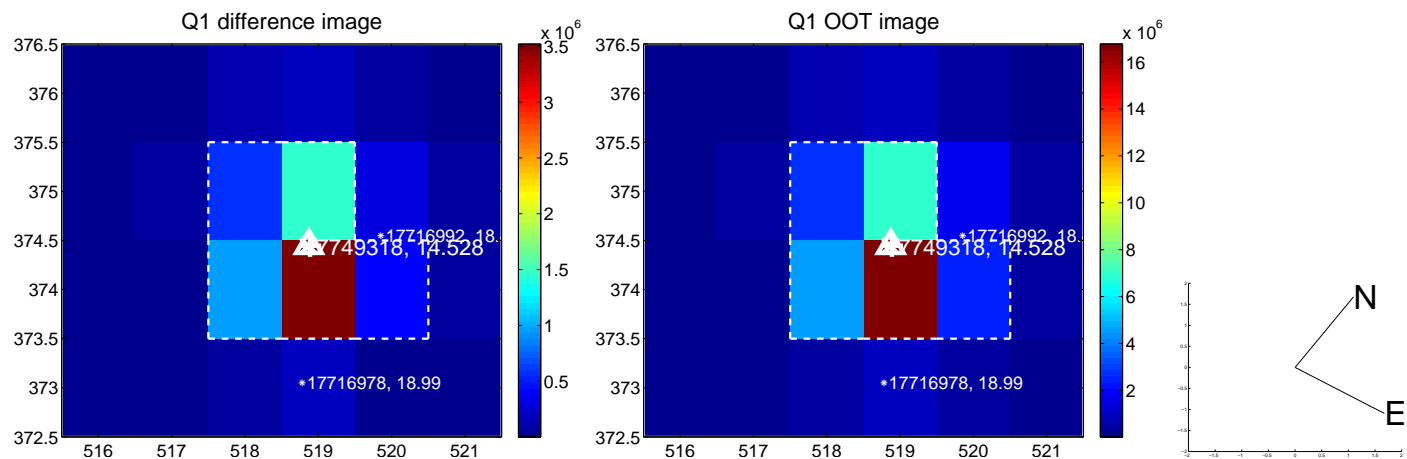
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.061 ± 0.067	0.92	-0.052 ± 0.067	-0.033 ± 0.067
PRF-fit source offset from KIC position	0.032 ± 0.067	0.48	0.016 ± 0.067	0.028 ± 0.067
photometric centroid source offset	0.03 ± 0.00	48.80	0.02 ± 0.00	-0.01 ± 0.00

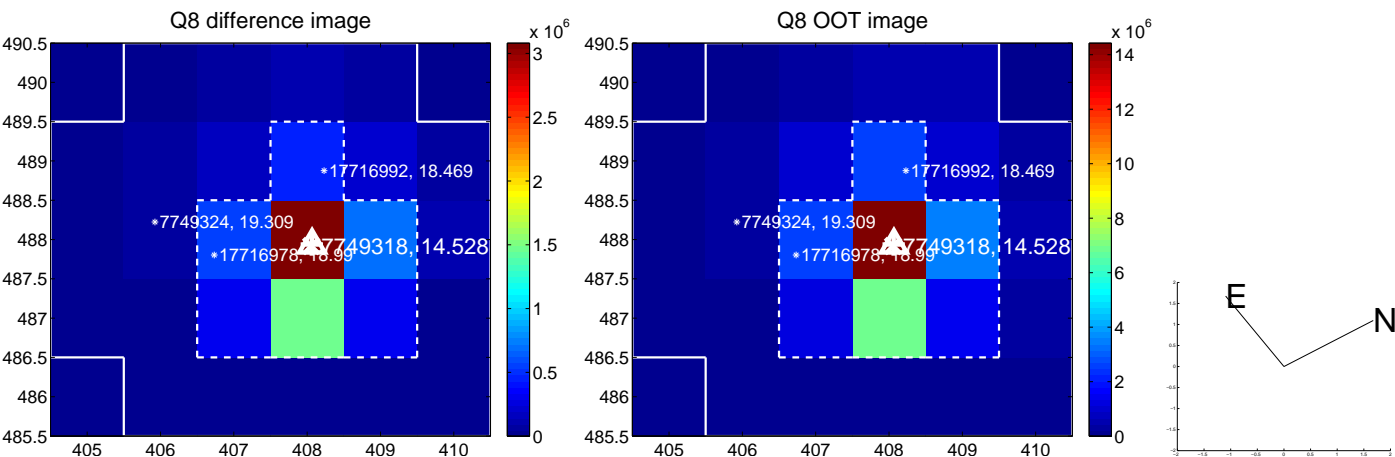
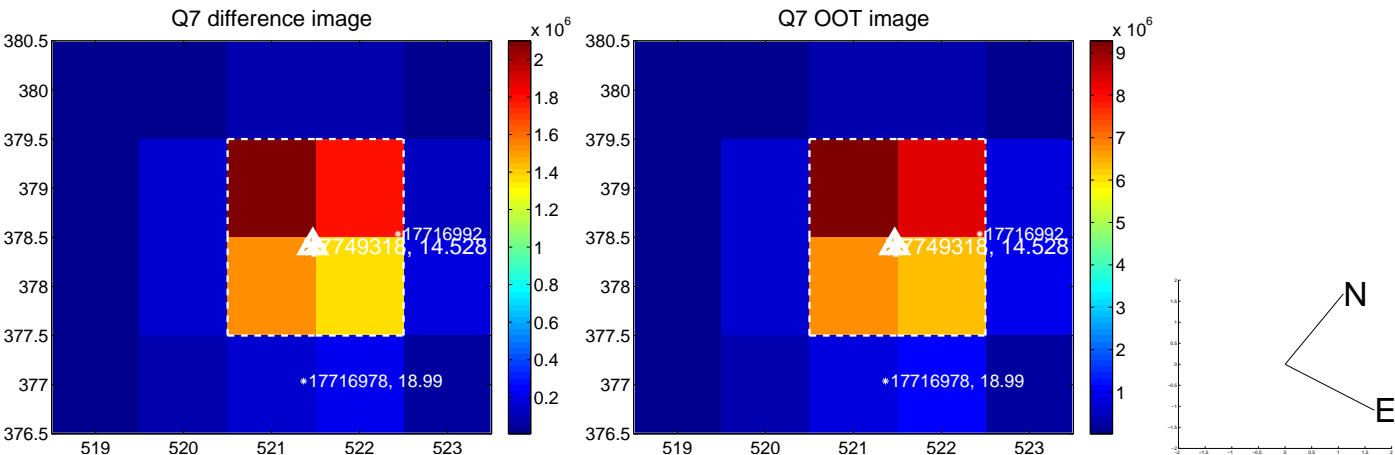
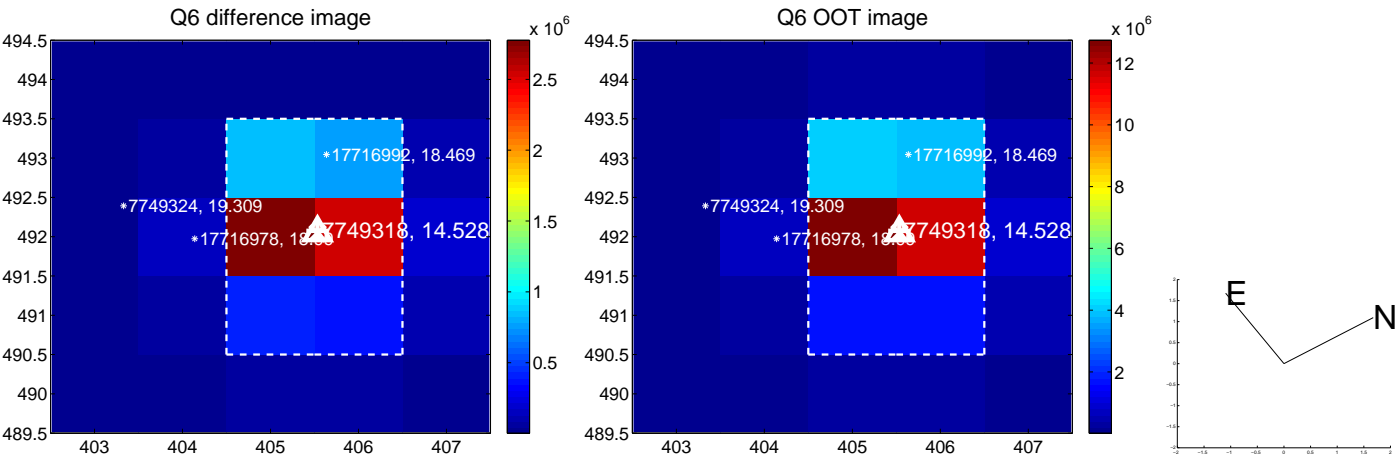
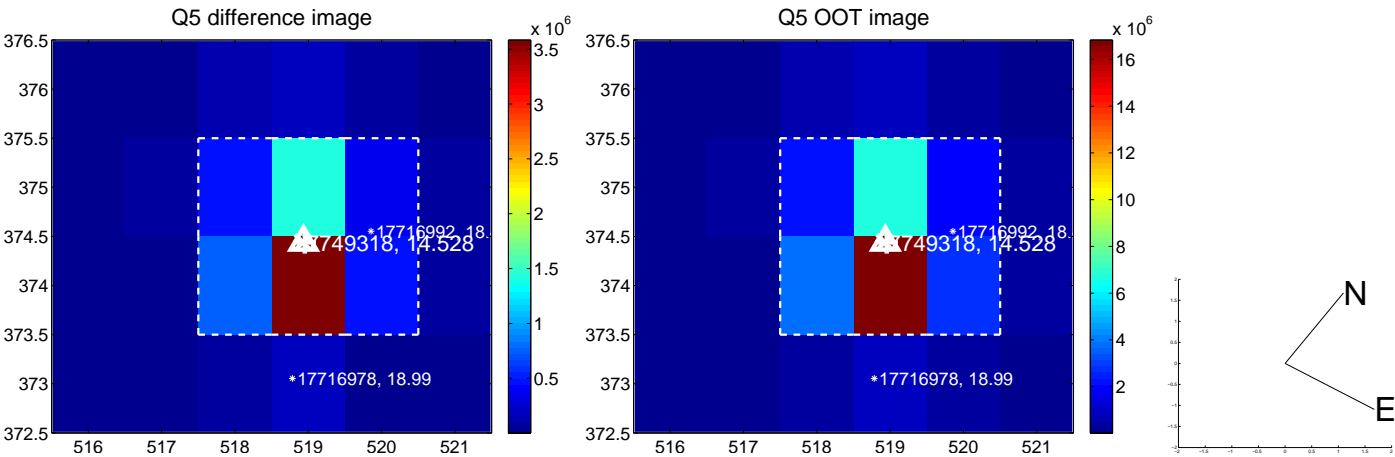


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

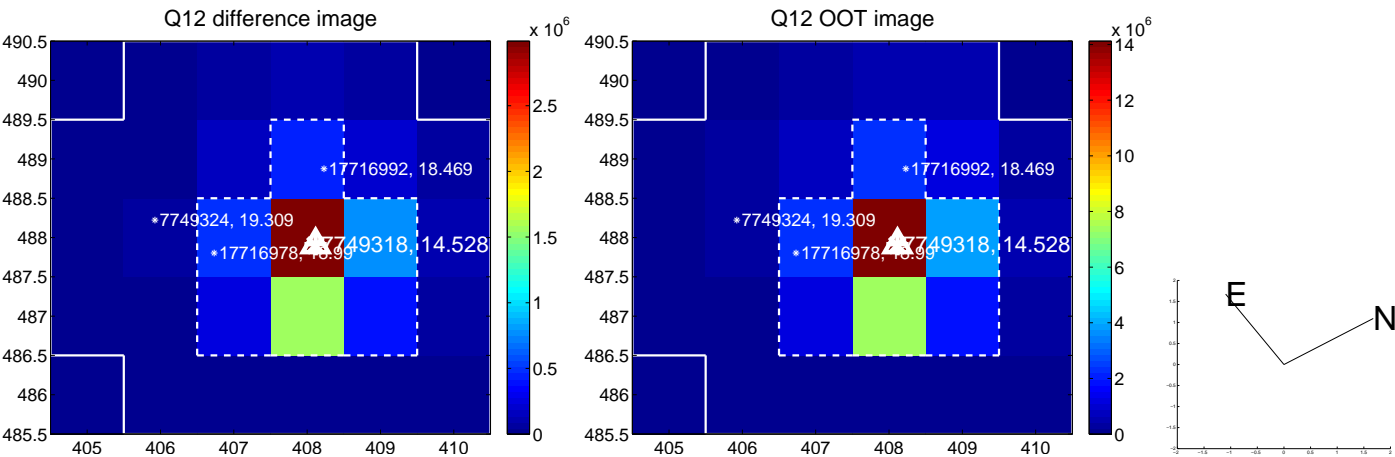
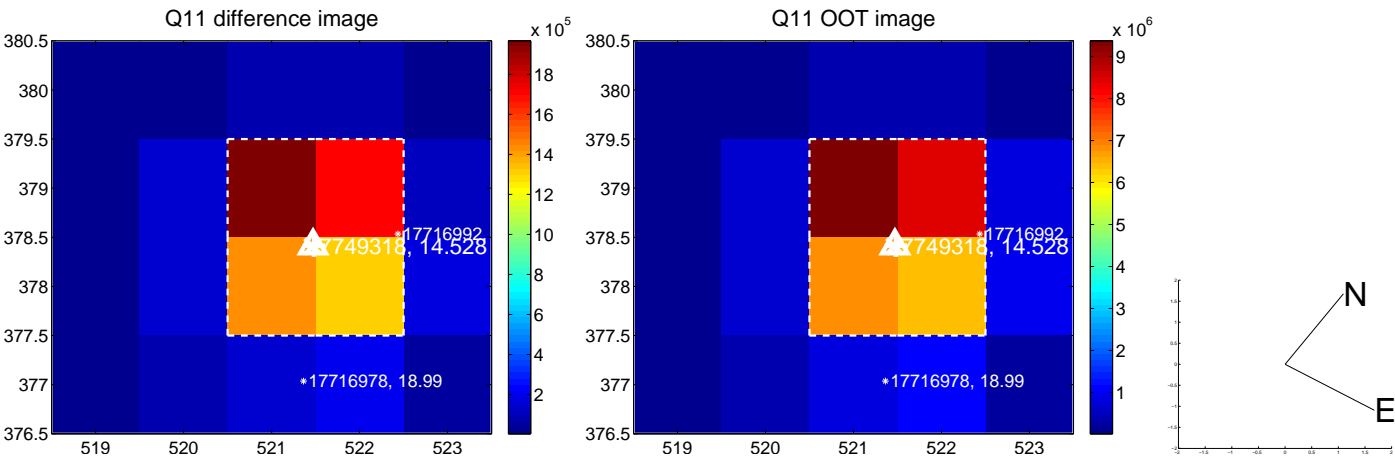
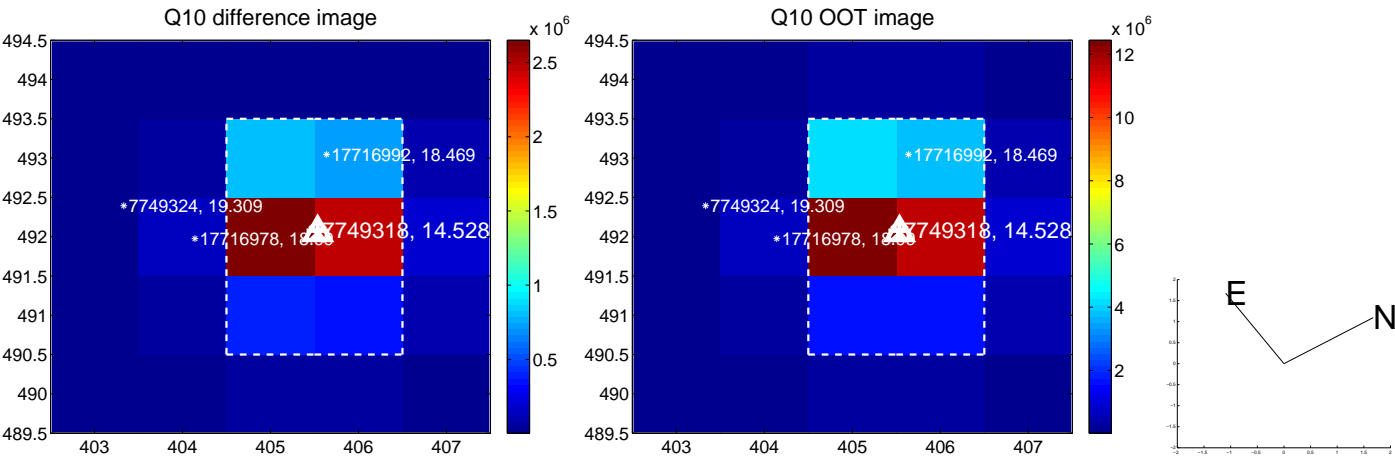
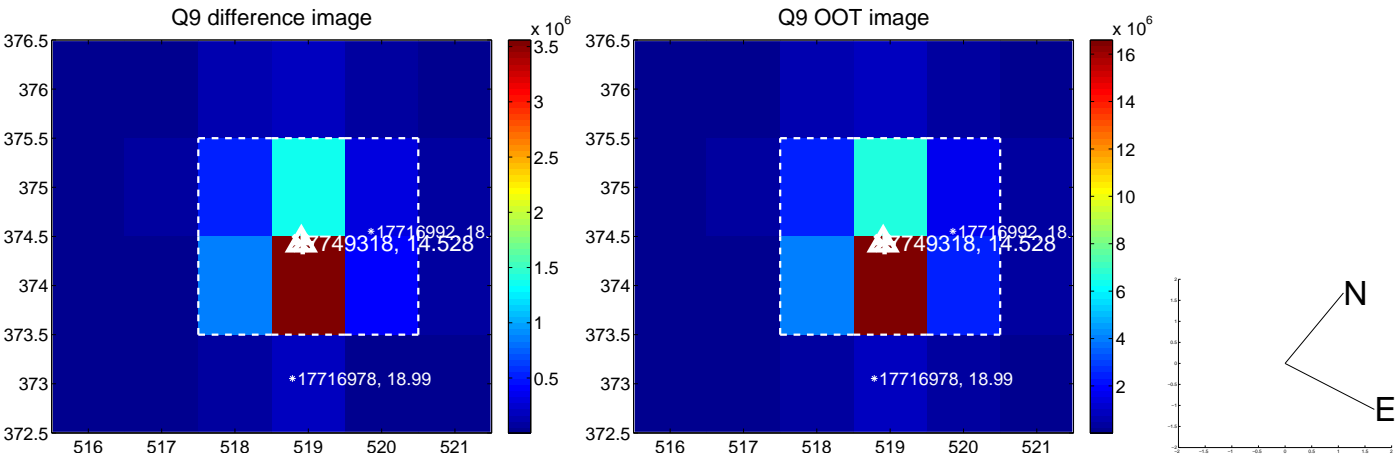
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



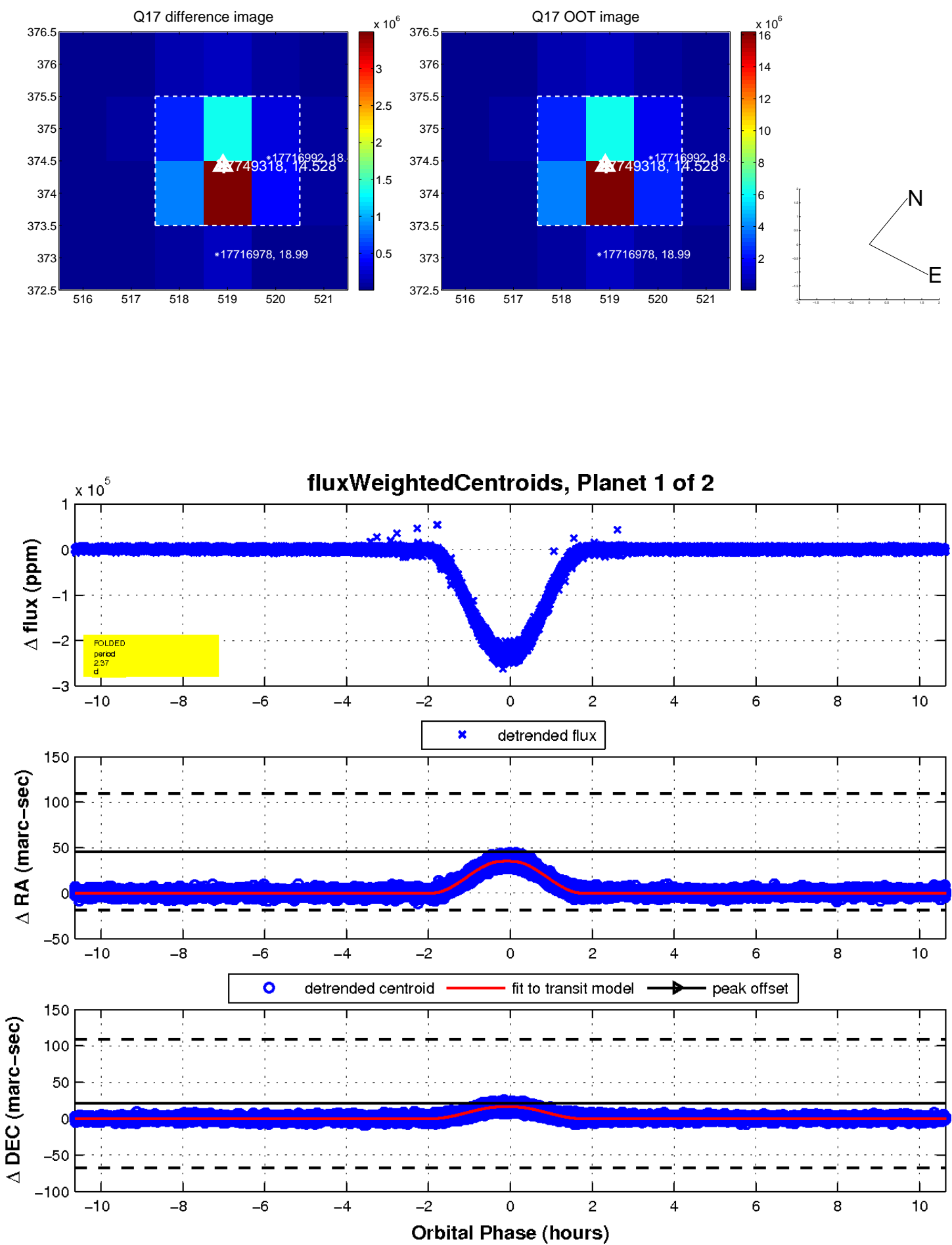
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

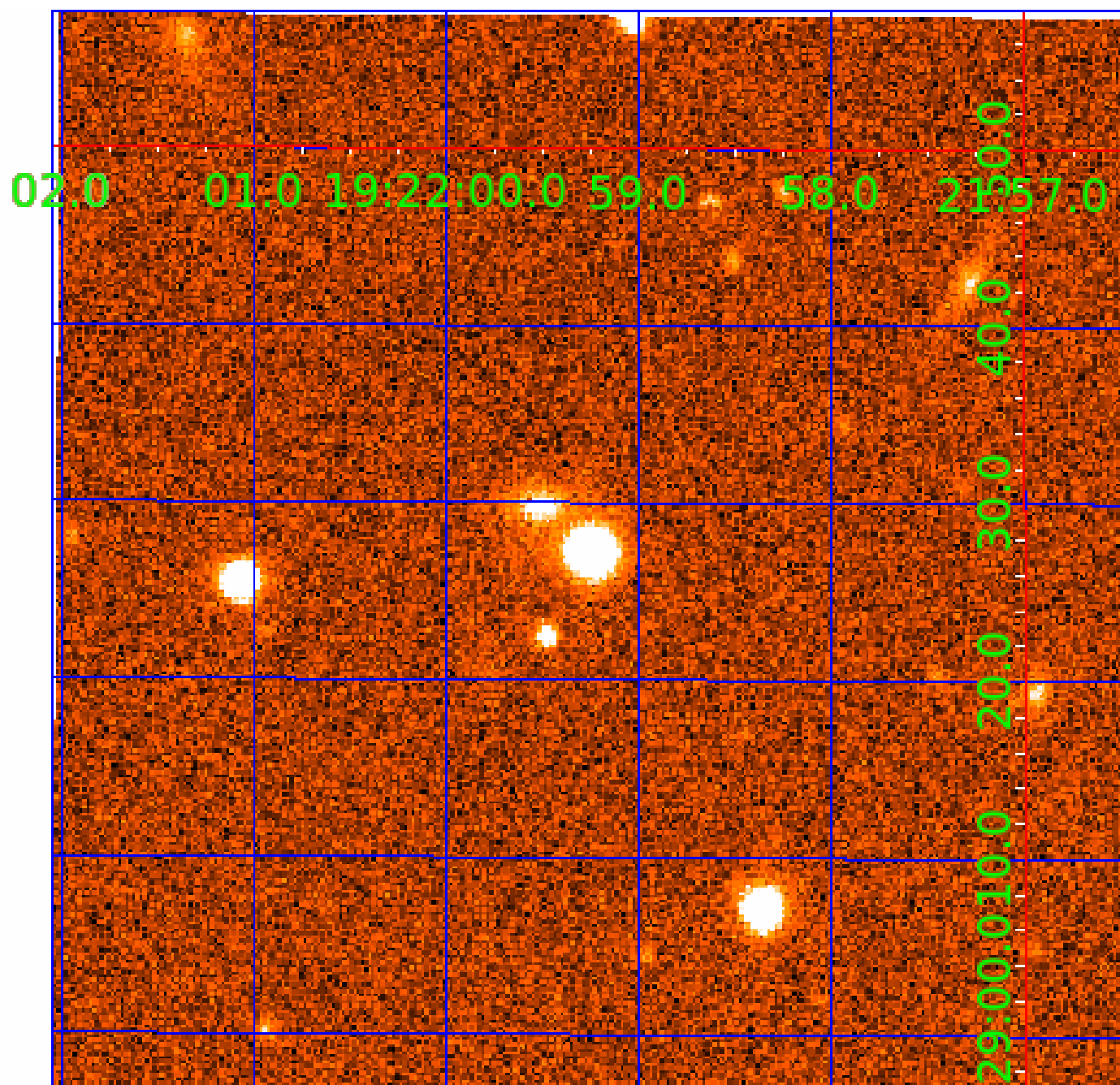


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007749318

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})
007749318-01	OBS	6042.01	2.371593	132.742065	232394.4	3.546	9092.2	5037.7	0.60	5340	30.44	279.85
007749318-02	OBS	No	2.371569	131.524616	5039.7	4.500	685.1	-1.0	0.60	5340	4.24	279.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007749318-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
007749318-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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.

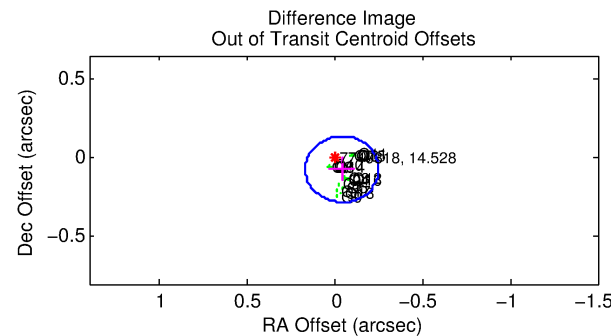
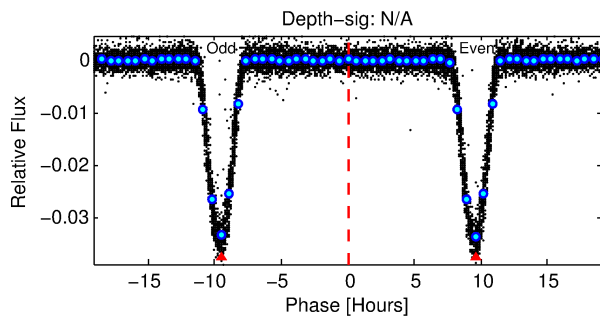
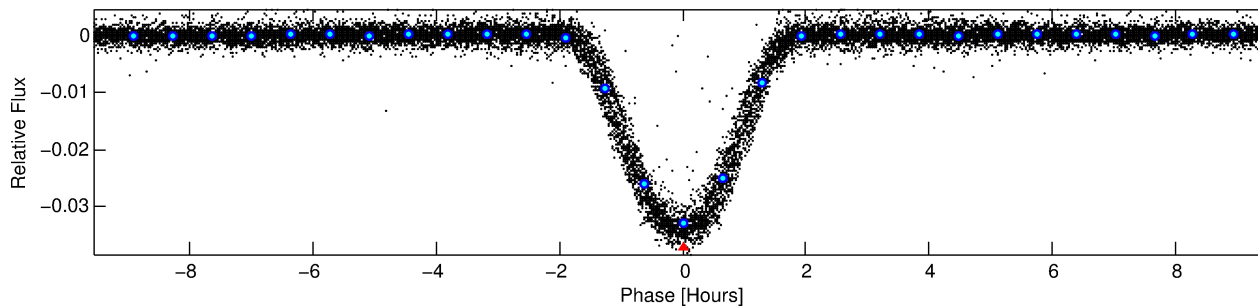
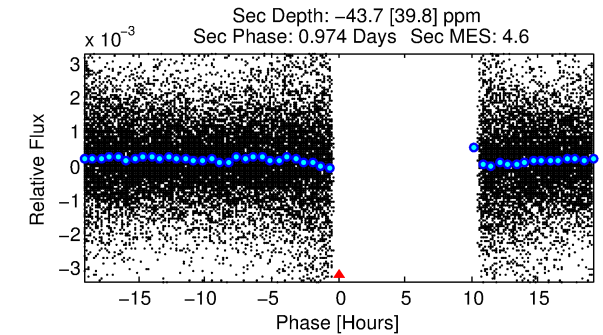
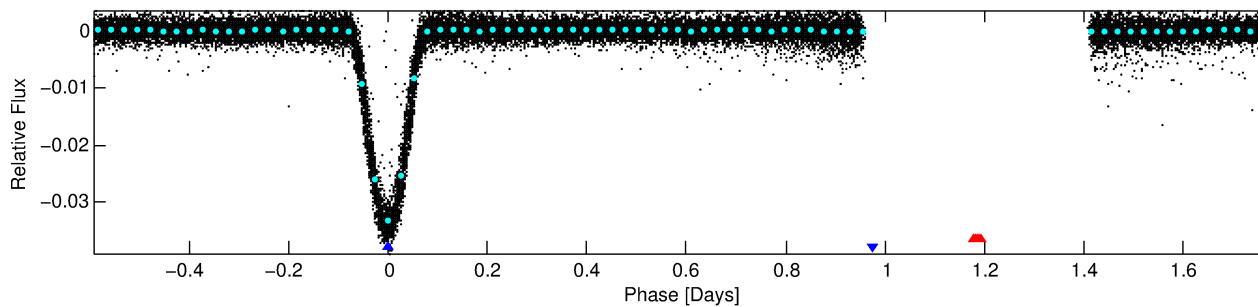
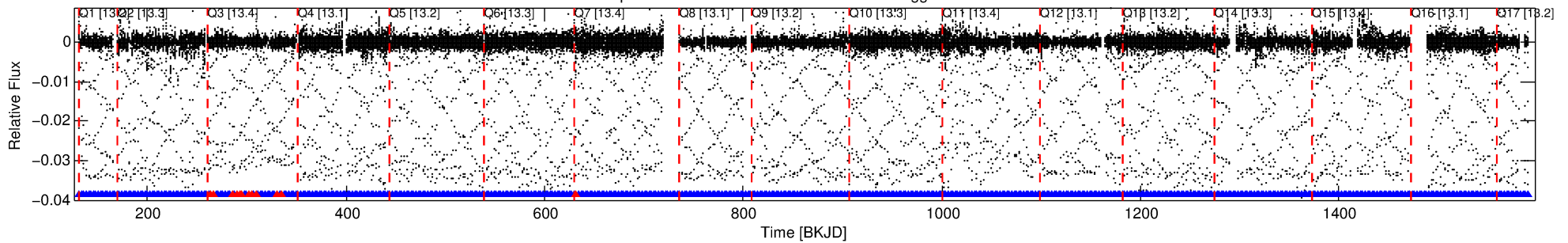
Ephemeris Match Information For 007749318-02

No Significant Match Found

DV One-Page Summary

KIC: 7749318 Candidate: 2 of 2 Period: 2.372 d
KOI: K06042 Corr: No Ephemeris Match

Kp: 14.53 R*: 0.60 Rs Teff: 5340.0 K Logg: 4.71 Fe/H: -1.000



TPS TCE Results:

Period = 2.37157 d
Epoch = 131.5246 BKJD

DV fit results are unavailable

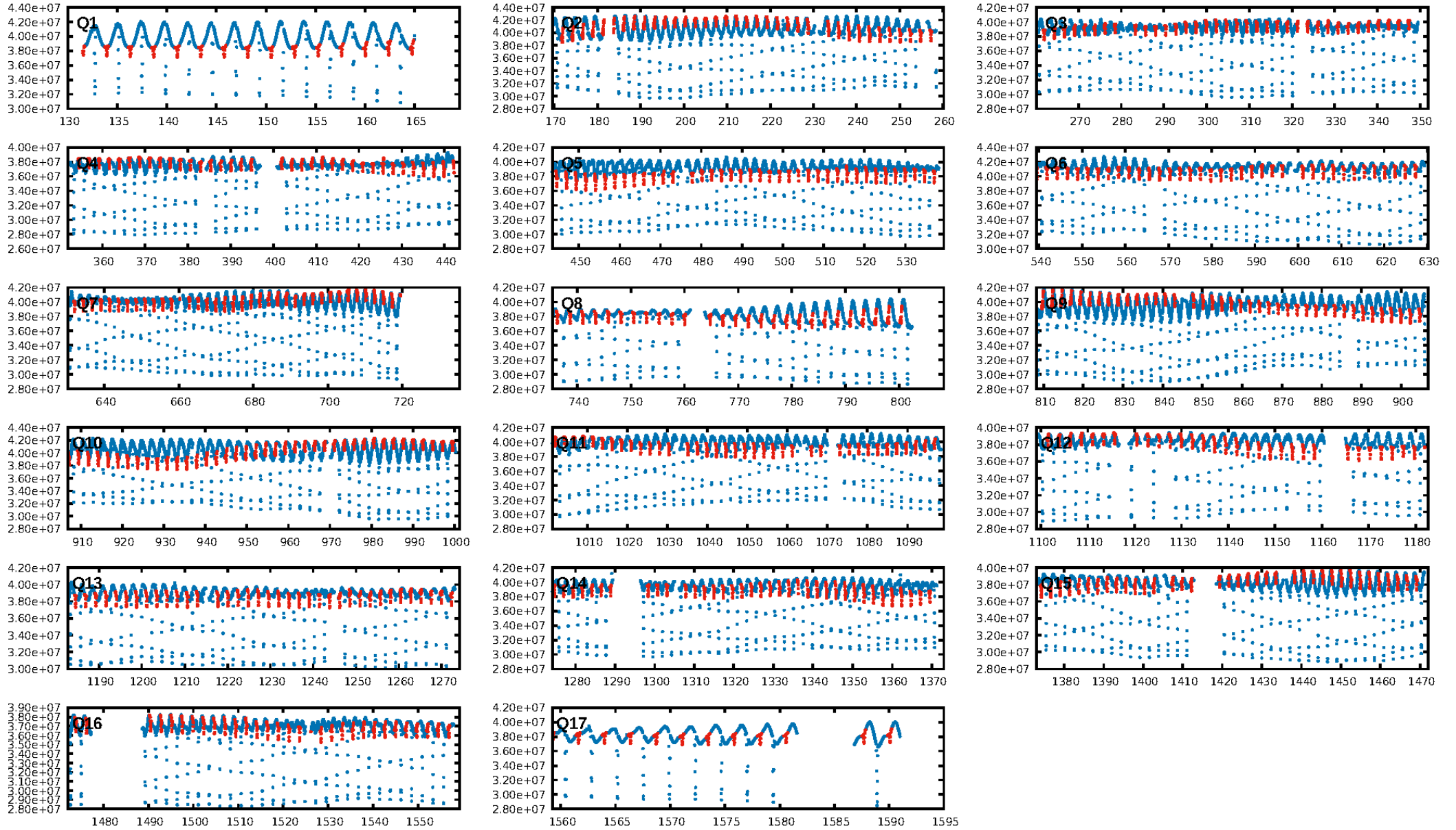
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [523/535]
GhostDiagnostic-chr: 1.043
Centroid-sig: 0.0%
Centroid-so: 0.118 arcsec [37.12σ]
OotOffset-rm: 0.082 arcsec [1.18σ]
KicOffset-rm: 0.028 arcsec [0.40σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

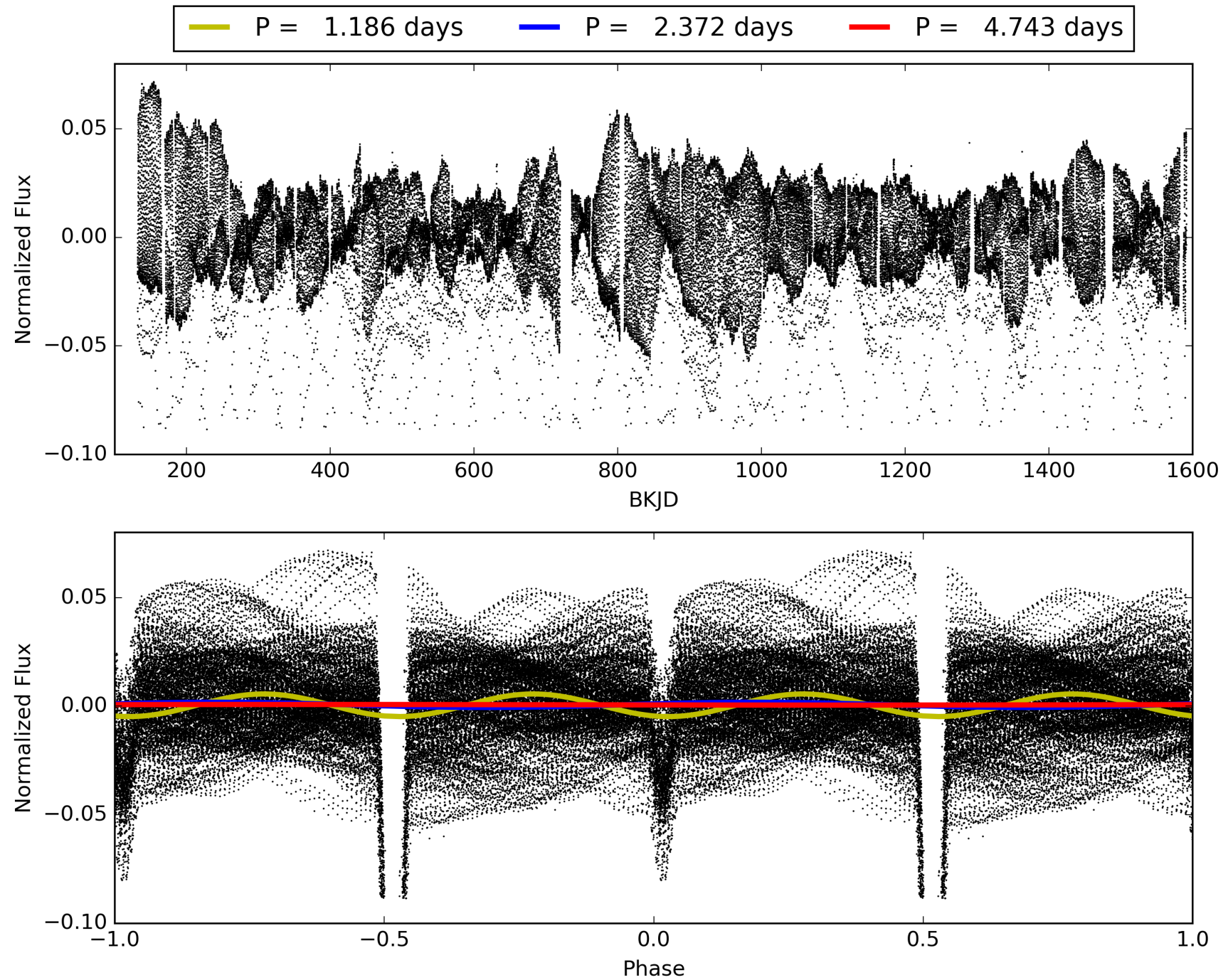
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:57:56 Z

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

TCE 007749318-02, PDC Light Curves

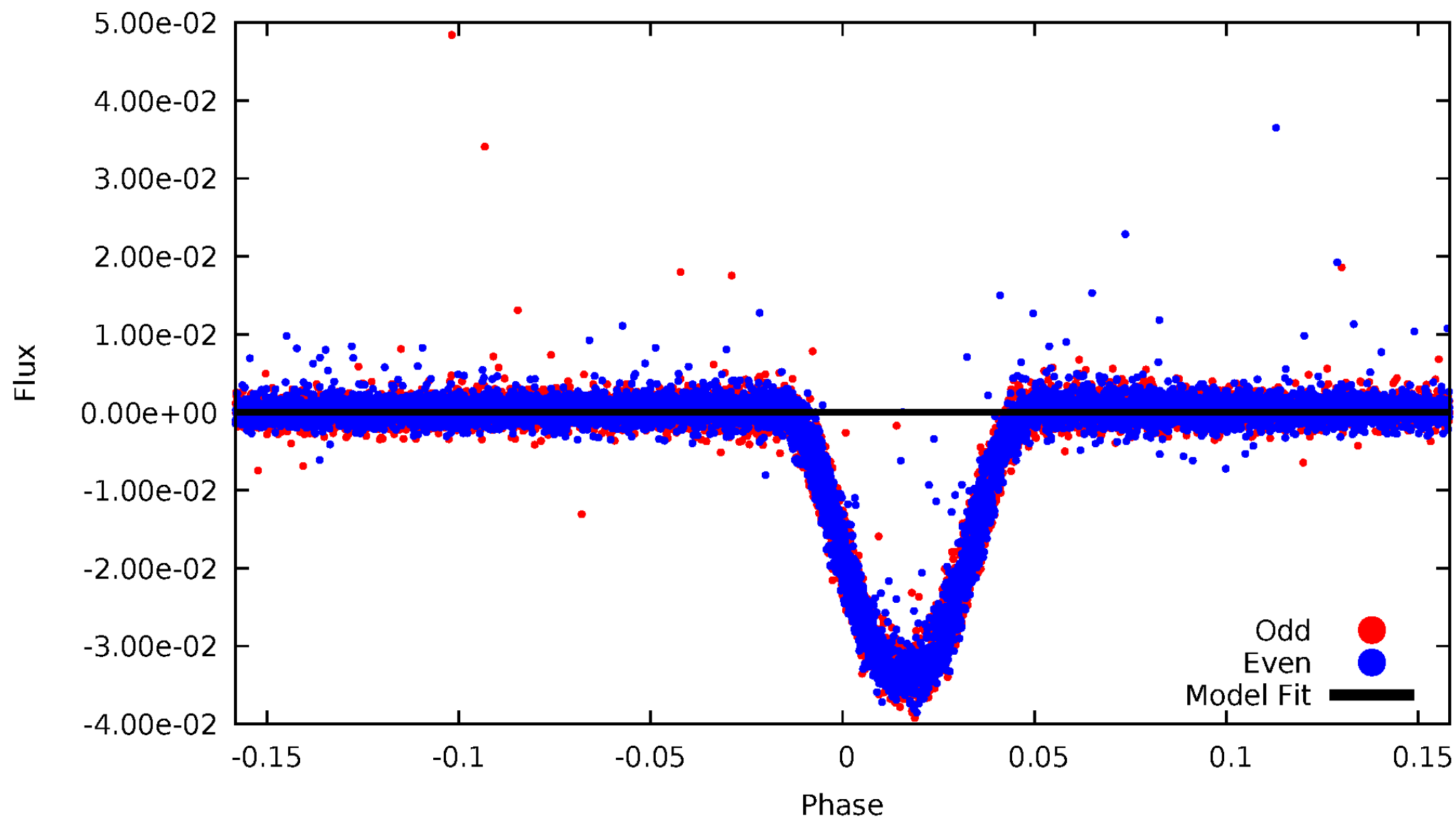


TCE 007749318-02



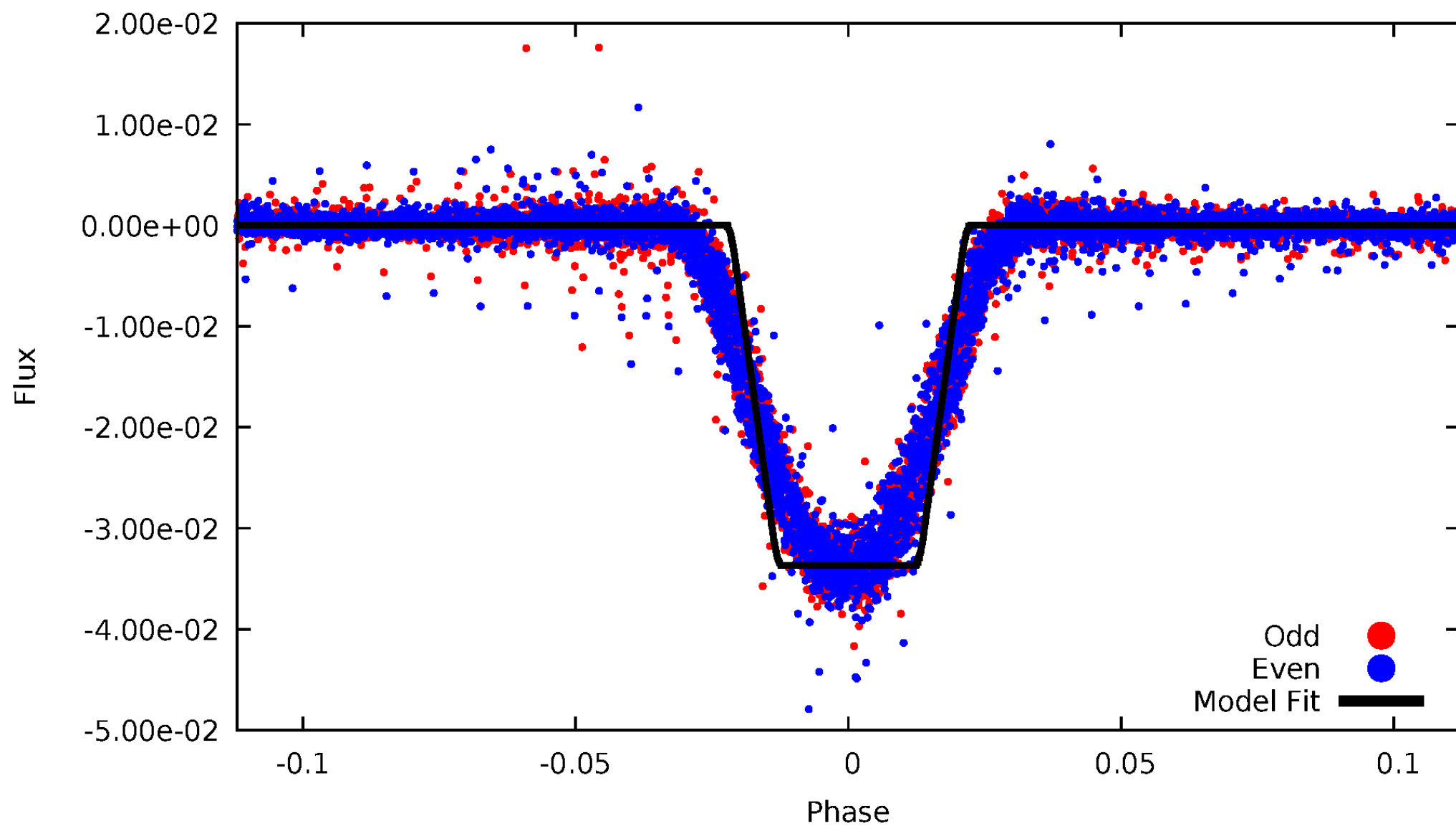
DV Odd/Even

TCE 007749318-02



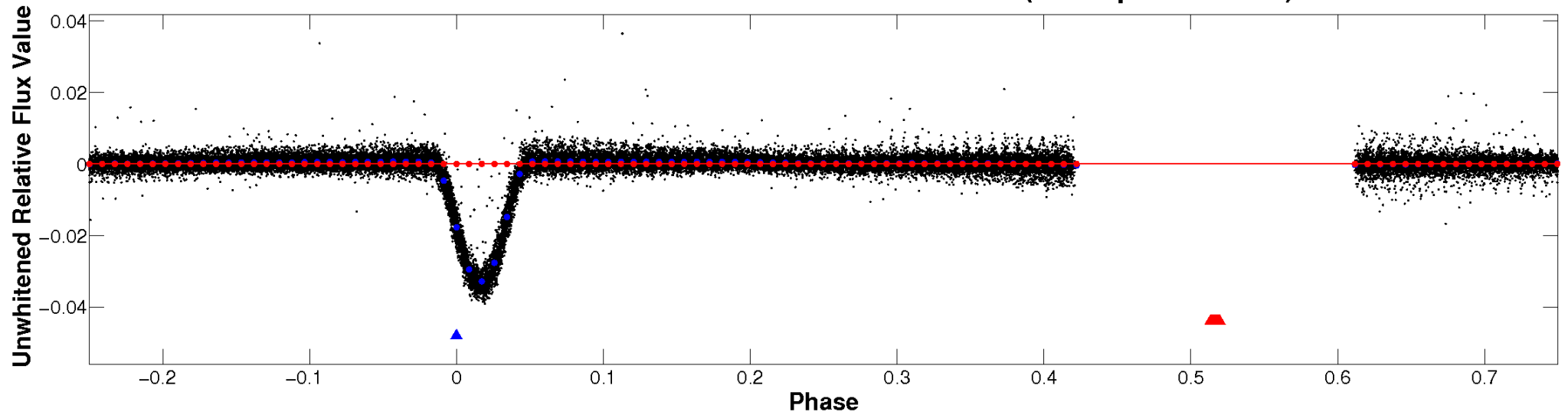
ALT Odd/Even

TCE 007749318-02

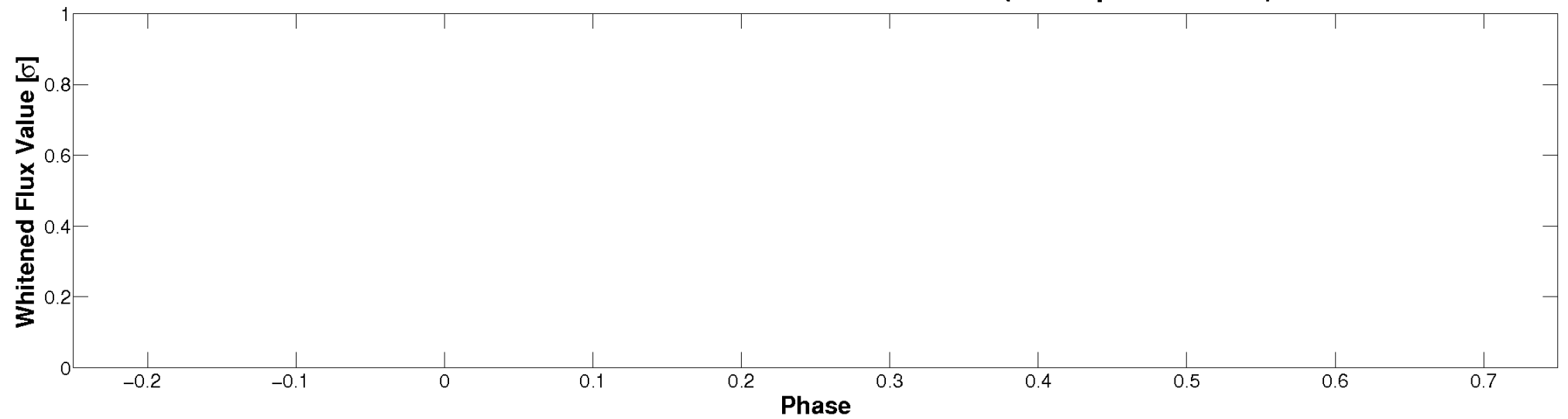


Non-Whitened Vs. Whitened Light Curve

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

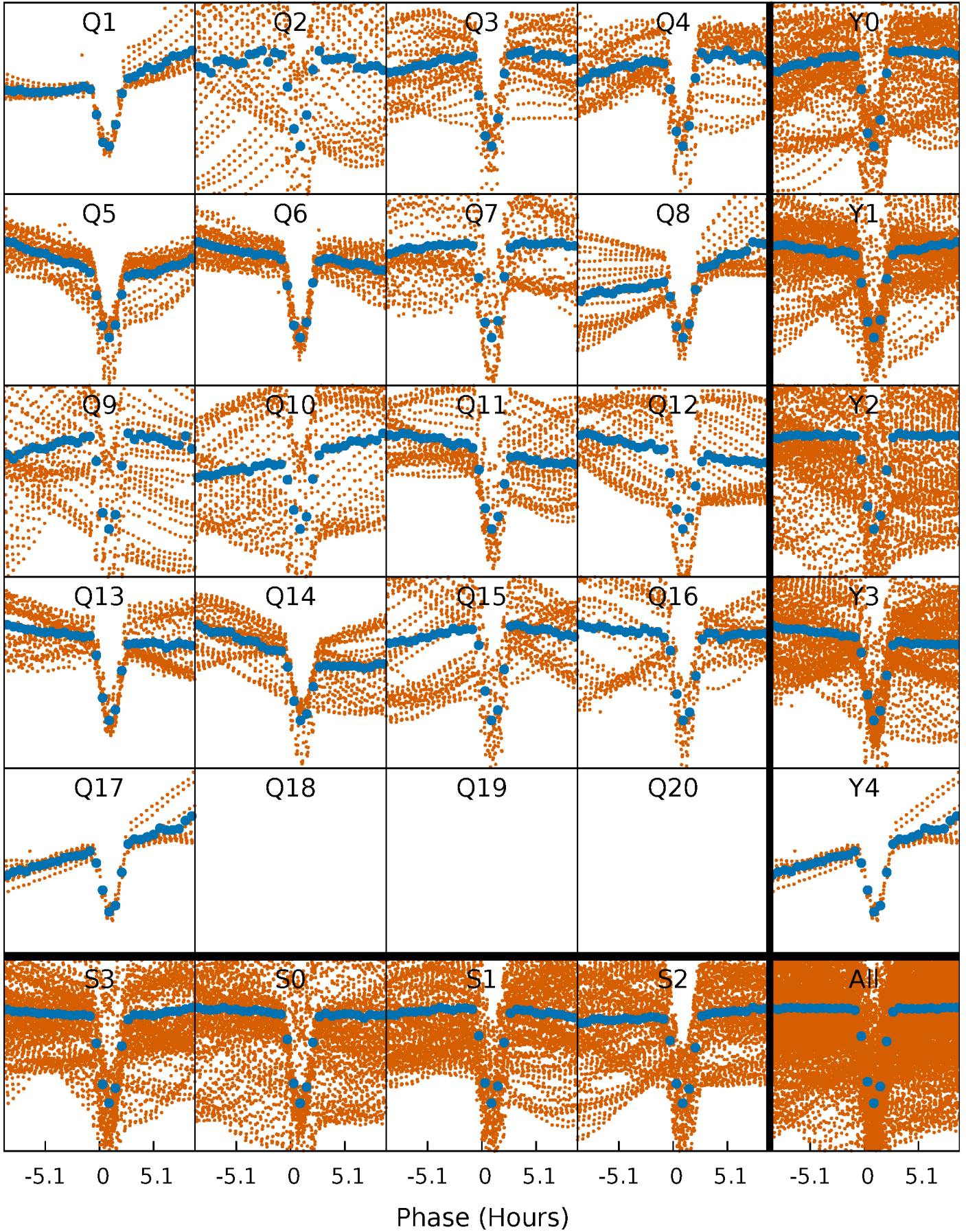


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



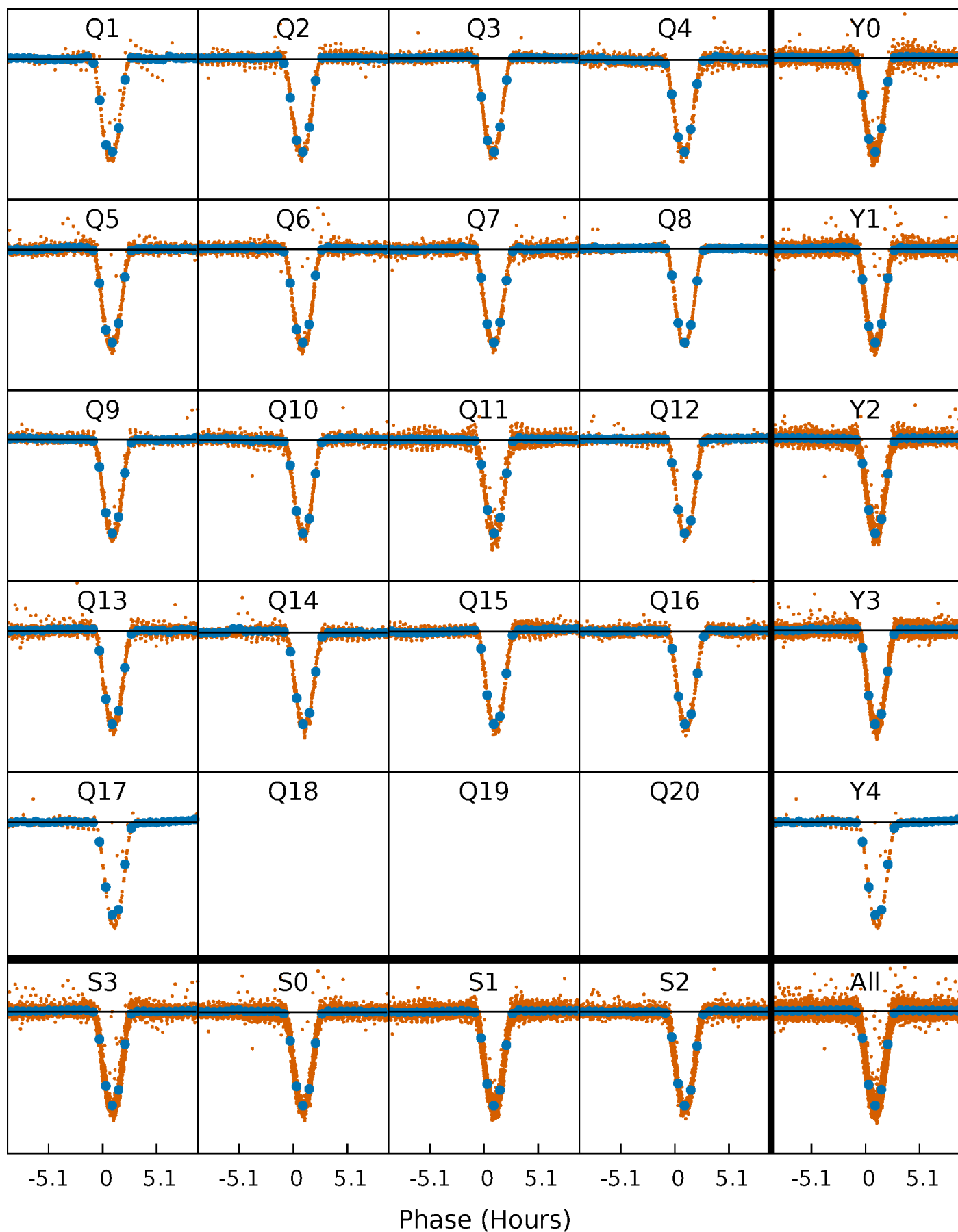
PDC Quarter-Phased Transit Curves

TCE 007749318-02 P= 2.371569 Days $T_0=131.524616$ (BKJD)



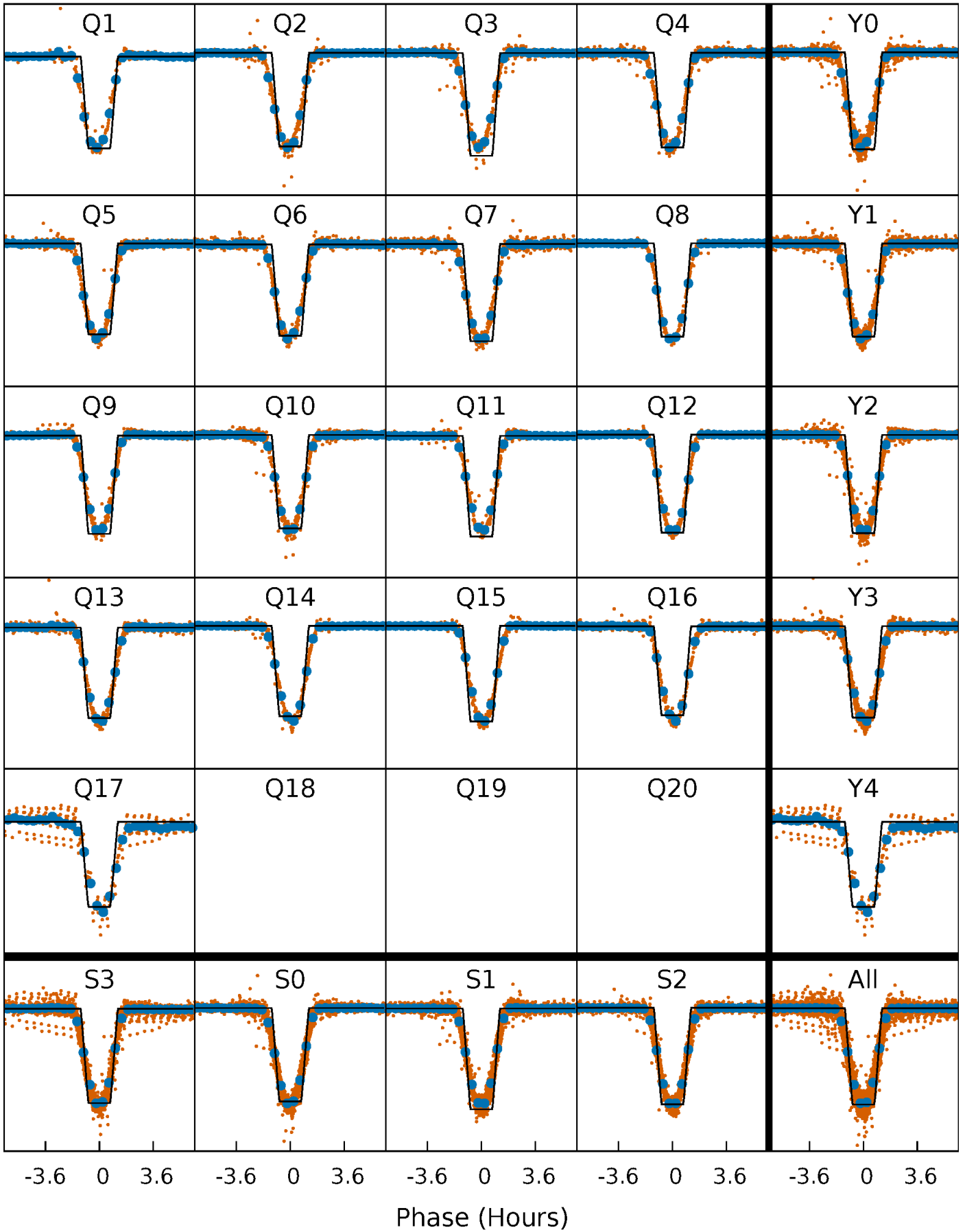
DV Quarter-Phased Transit Curves

TCE 007749318-02 P= 2.371569 Days $T_0=131.524616$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

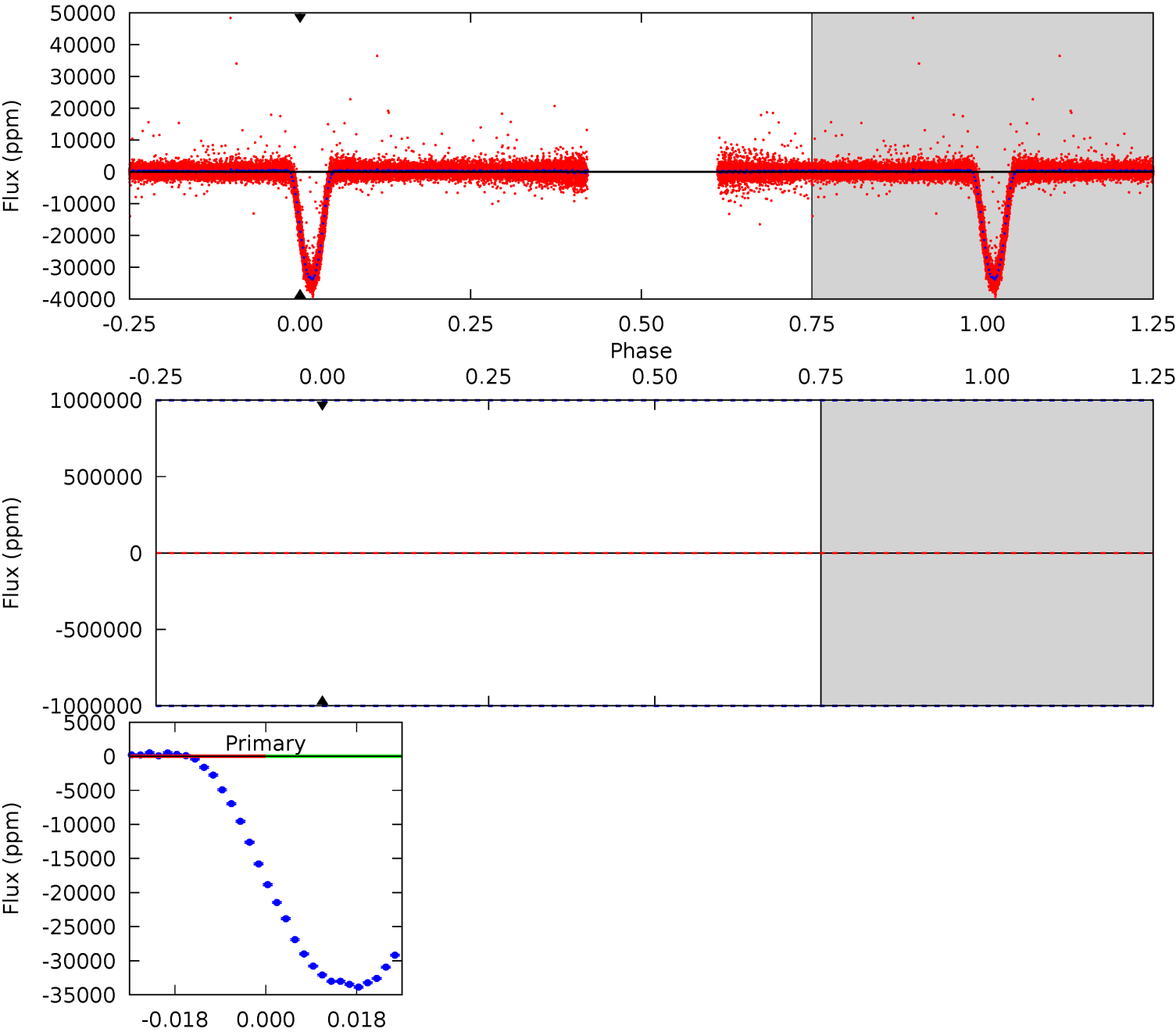
TCE 007749318-02 P= 2.371569 Days $T_0=131.564569$ (BKJD)



DV Model-Shift Uniqueness Test

007749318-02, P = 2.371569 Days, E = 129.153047 Days

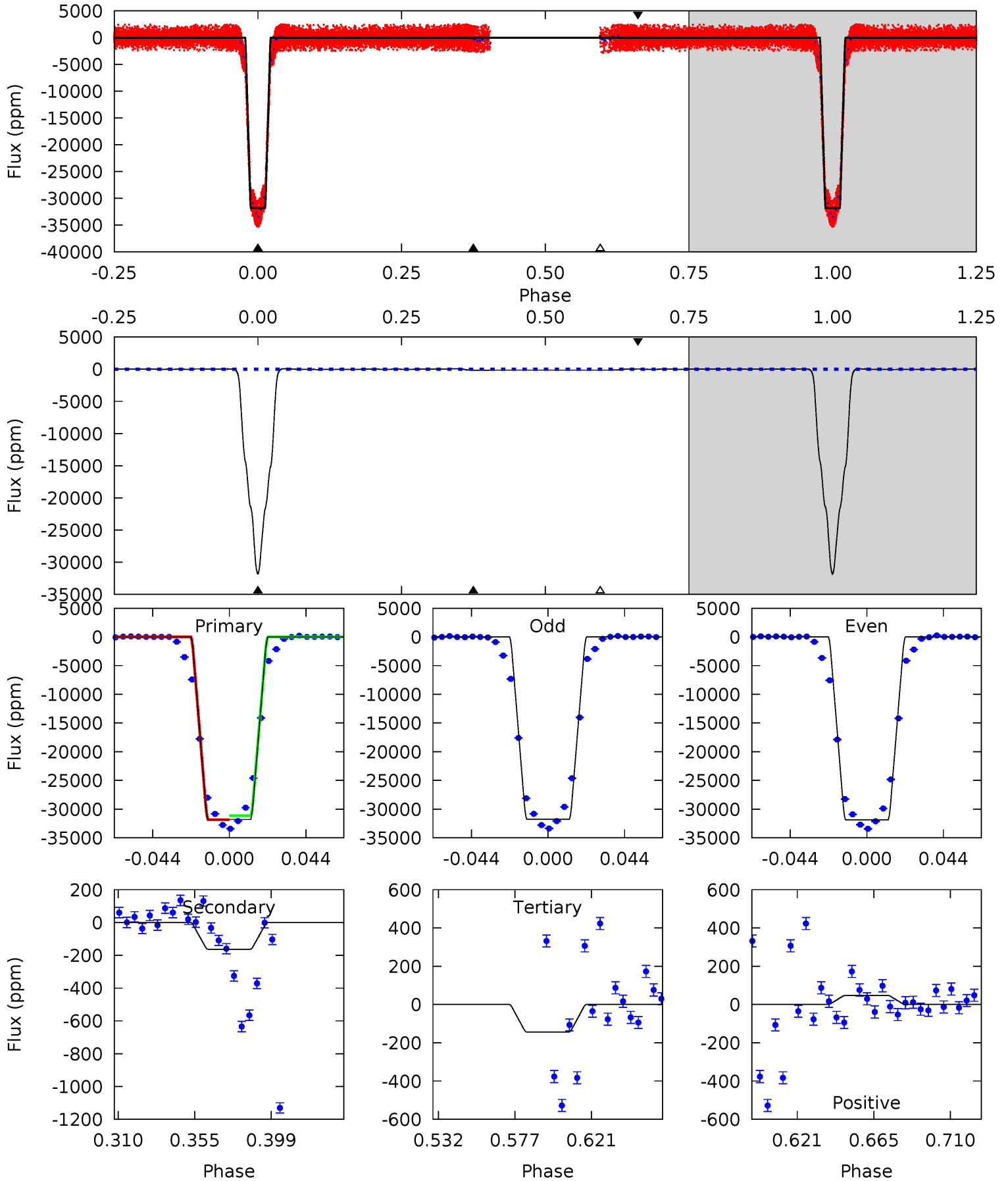
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007749318-02, P = 2.371569 Days, E = 129.193000 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1873	9.60	8.45	2.80	4.73	2.01	1.44	1864	1870	1.16	6.80	2.56	1.00	0.00	20.4



Stellar Parameters For KIC 007749318

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5340^{+161}_{-145}	$4.715^{+0.015}_{-0.085}$	$-1.000^{+0.300}_{-0.300}$	$0.601^{+0.067}_{-0.027}$	$0.685^{+0.042}_{-0.047}$	$4.432^{+0.341}_{-1.137}$
	+3%/-3%	+0%/-2%	+30%/-30%	+11%/-4%	+6%/-7%	+8%/-26%
Source	PHO1	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 007749318-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$6.48^{+5.45}_{-4.10}$	1481^{+58}_{-49}	-3072^{+17082}_{-8402}	$-5.865^{+2460.511}_{-1518.071}$
Alt.	-163 ± 17	$12.84^{+6.68}_{-6.67}$	1477^{+57}_{-44}	2076^{+611}_{-3977}	$0.503^{+1.567}_{-0.289}$

T_{max} = Theoretical Maximum Planetary Temperature

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

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

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

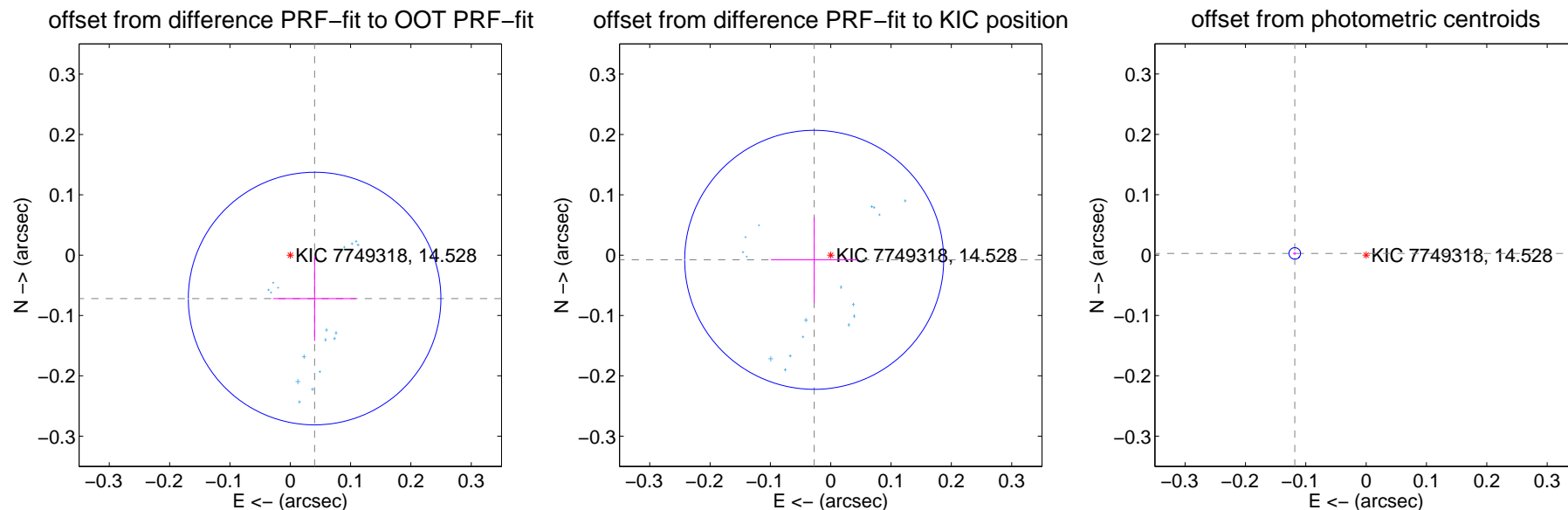
DV Centroid Data

Supplemental centroid analysis for 007749318-02. Kepler magnitude: 14.53. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

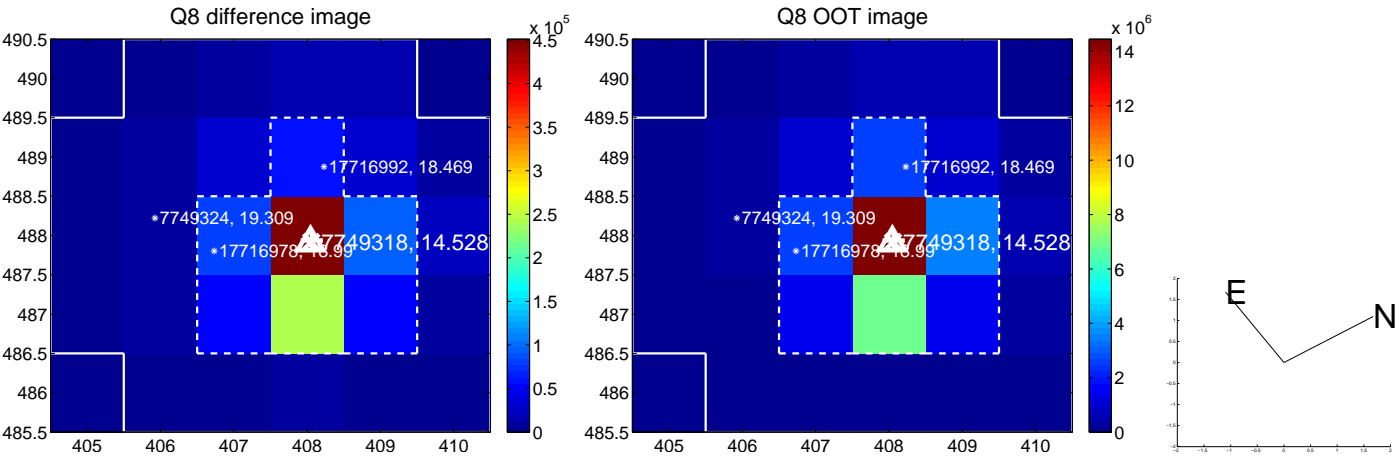
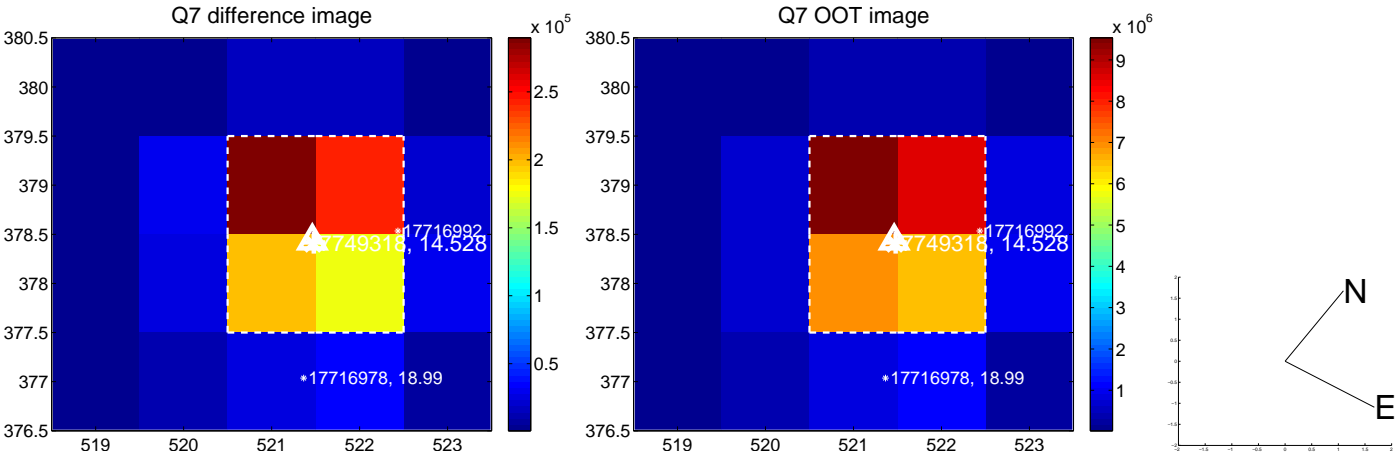
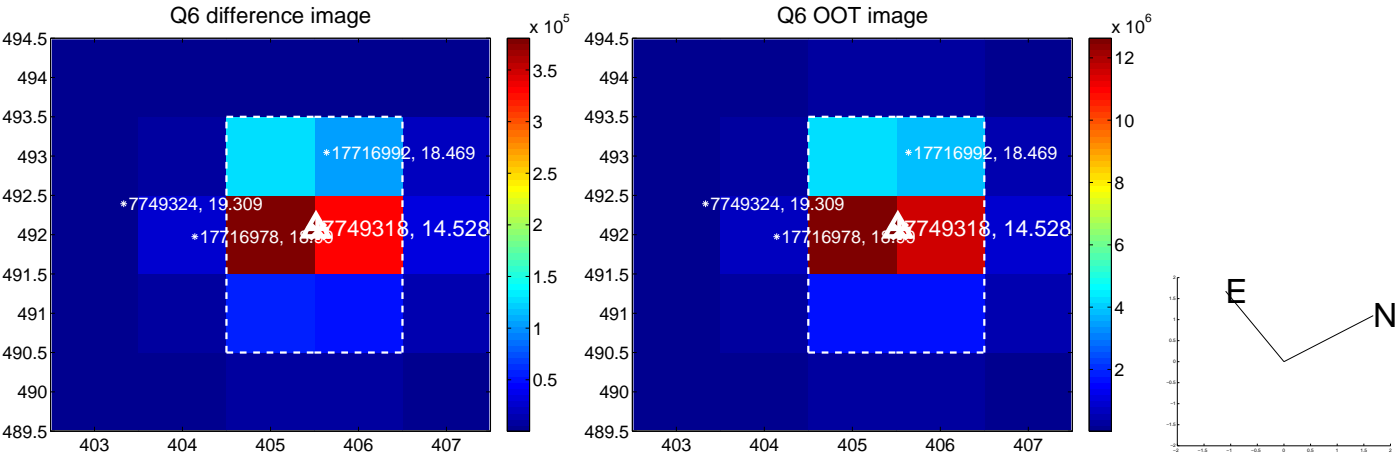
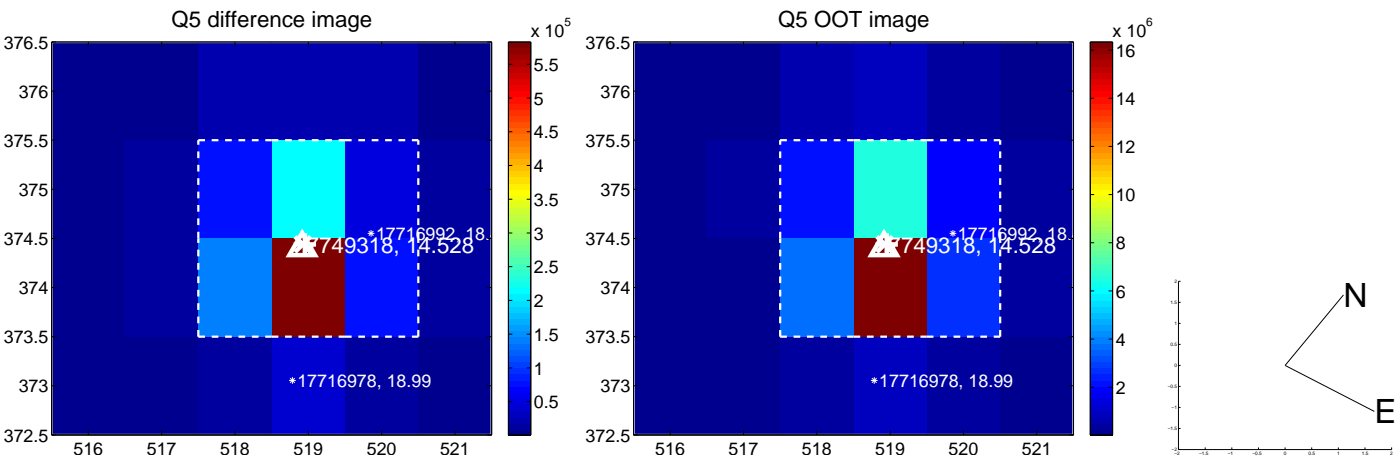
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.082 ± 0.070	1.18	-0.040 ± 0.068	-0.072 ± 0.070
PRF-fit source offset from KIC position	0.028 ± 0.072	0.40	0.027 ± 0.072	-0.008 ± 0.071
photometric centroid source offset	0.12 ± 0.00	37.12	0.12 ± 0.00	0.00 ± 0.00

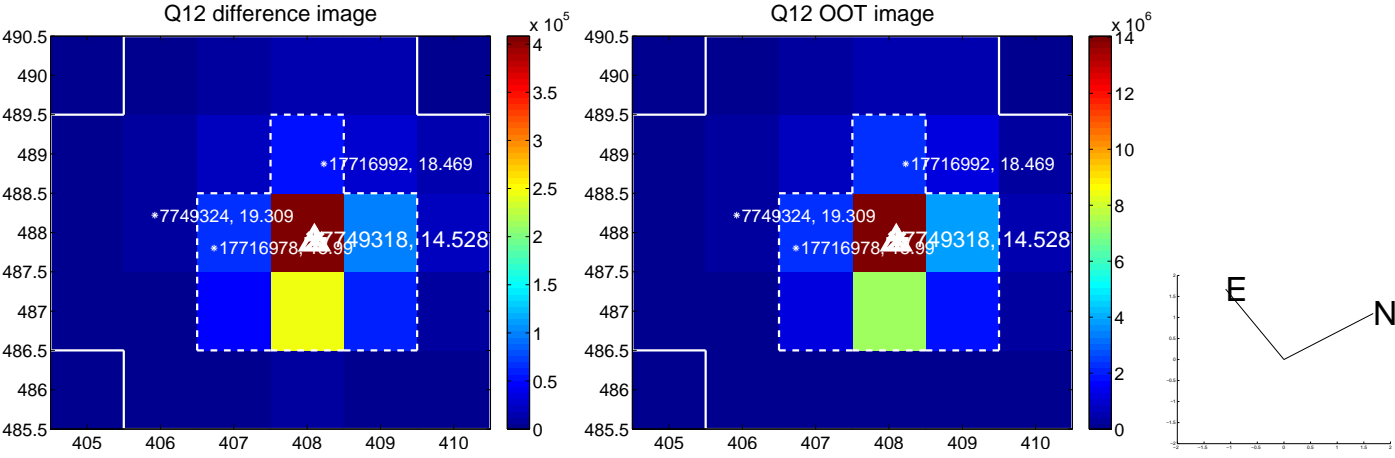
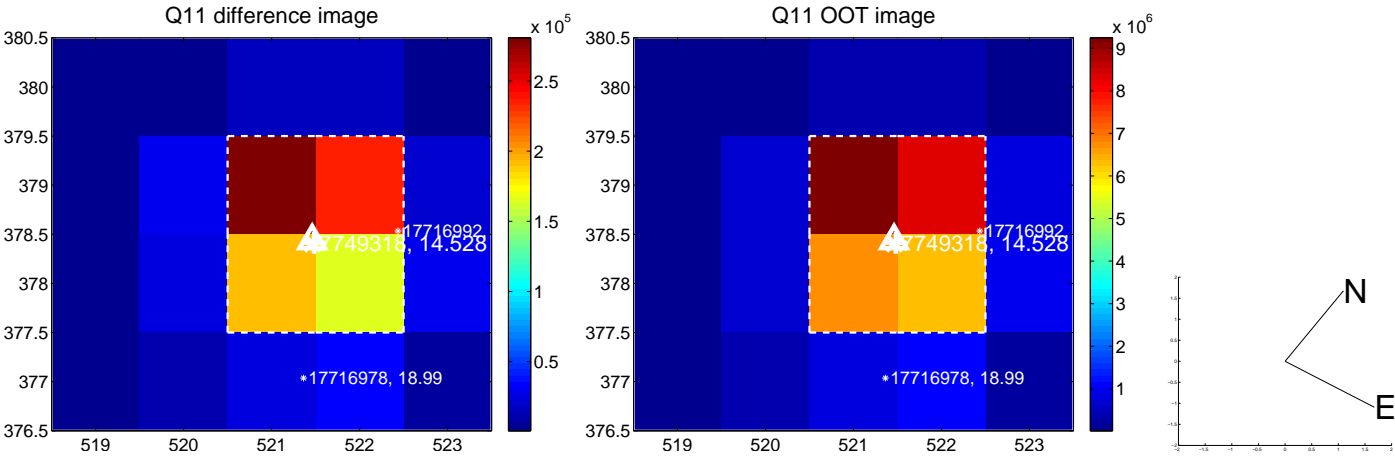
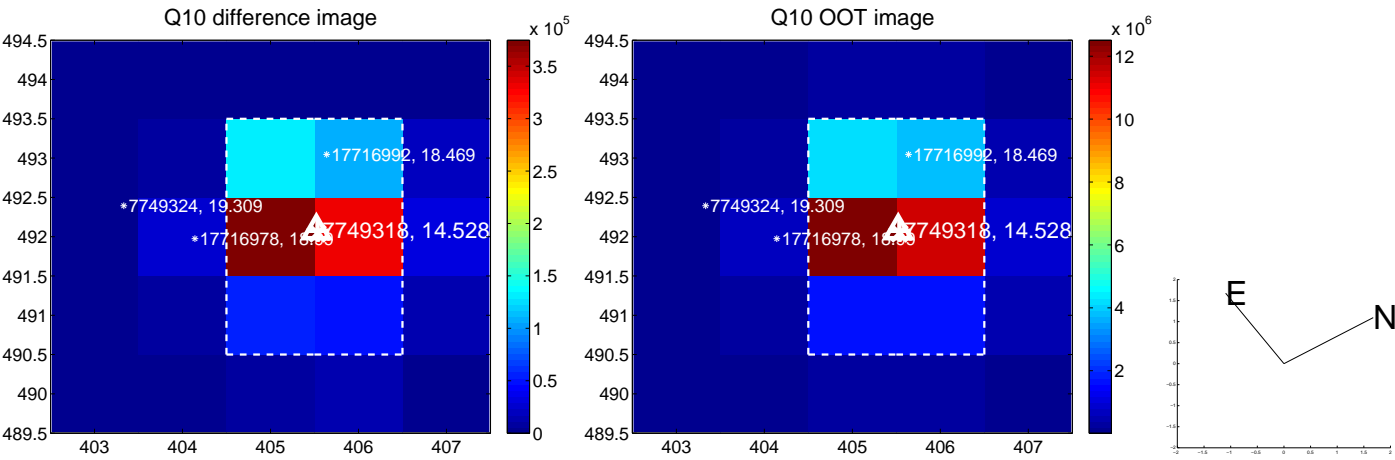
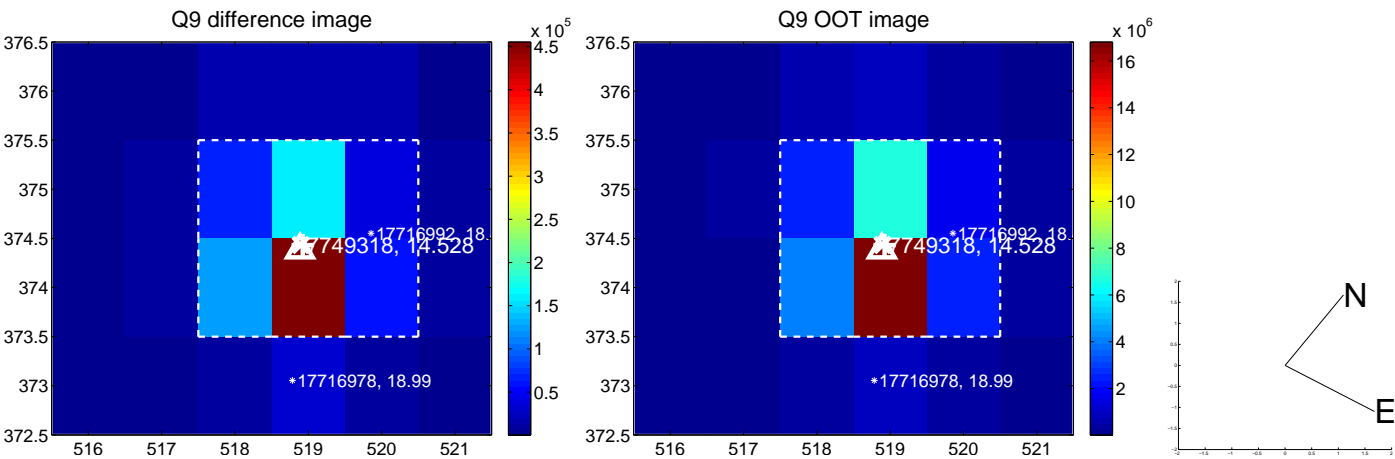


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

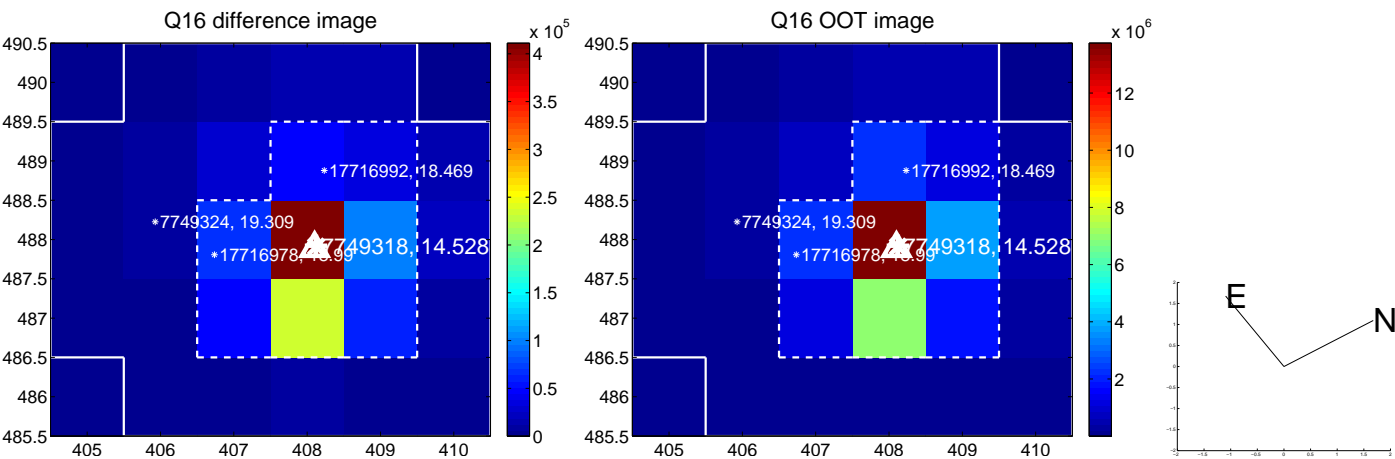
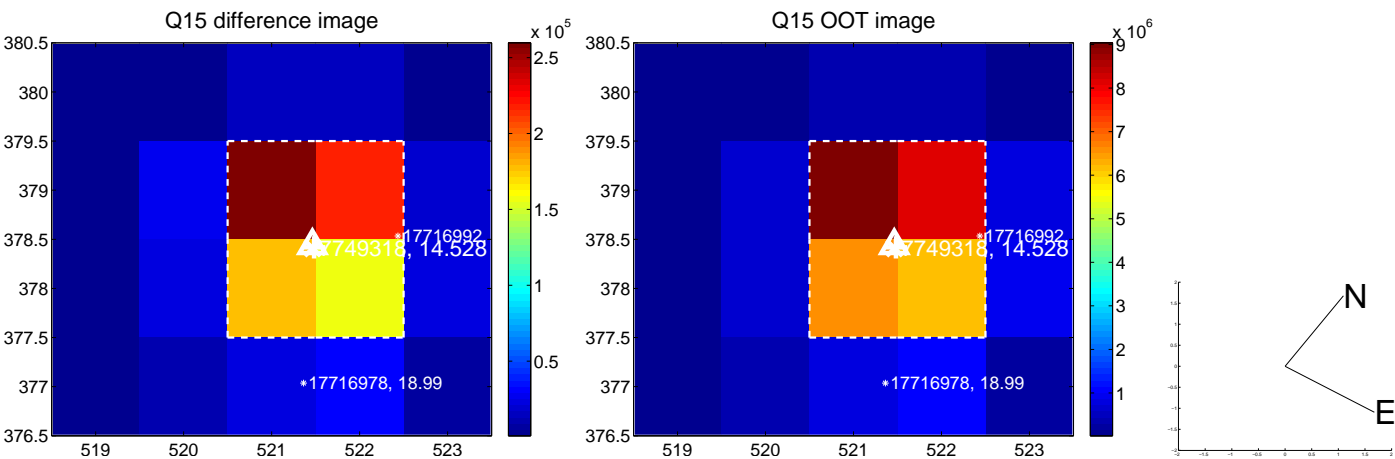
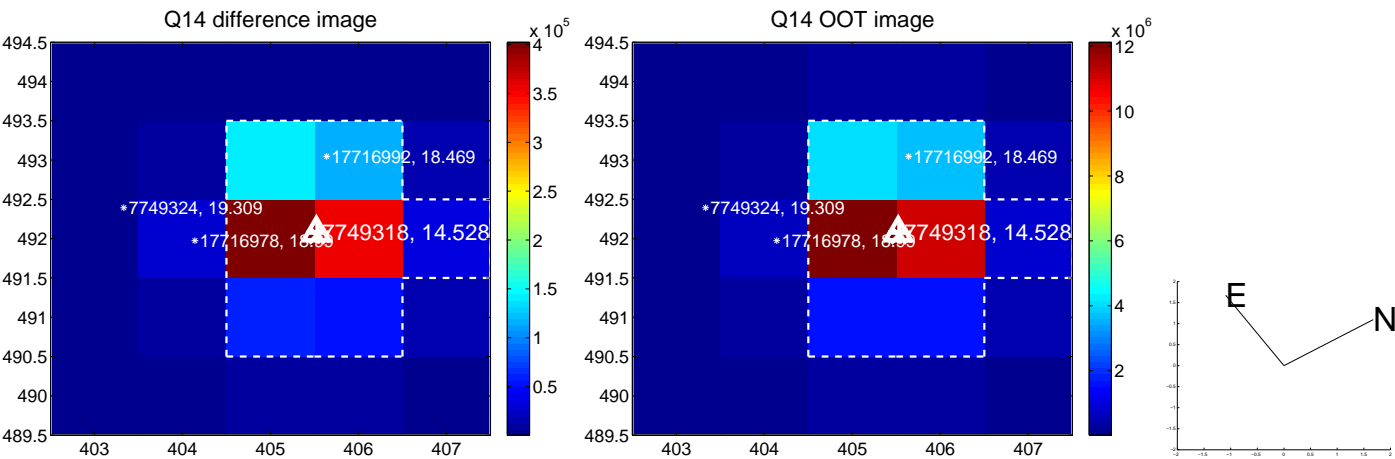
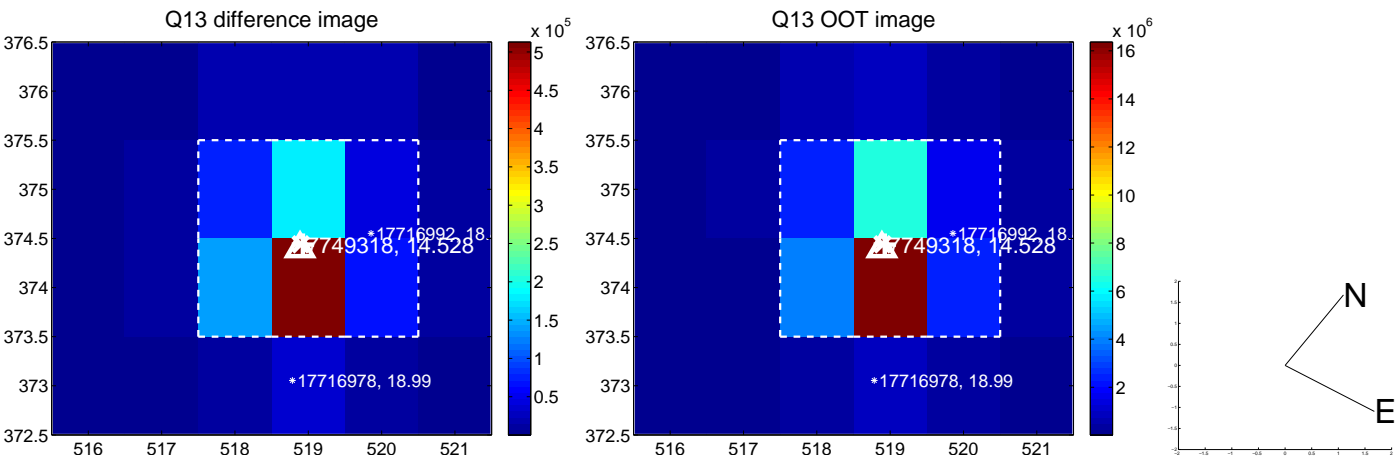
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

