

KIC 005022828

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})
005022828-01	OBS	2138.01	23.554023	144.216601	93.8	7.639	24.2	23.7	2.29	9565	2.57	860.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005022828-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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

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

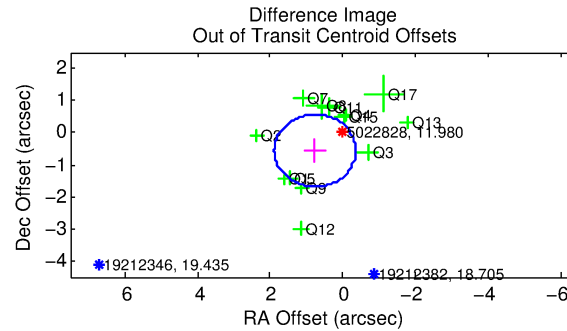
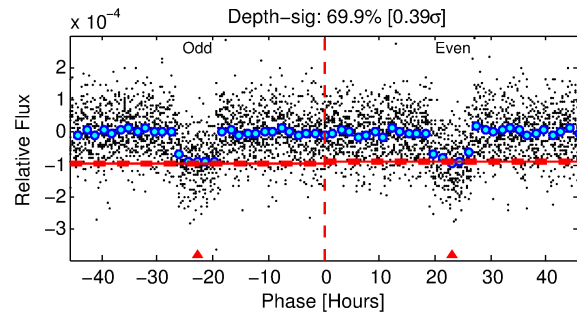
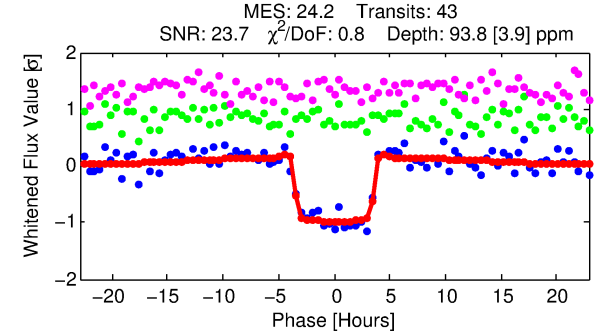
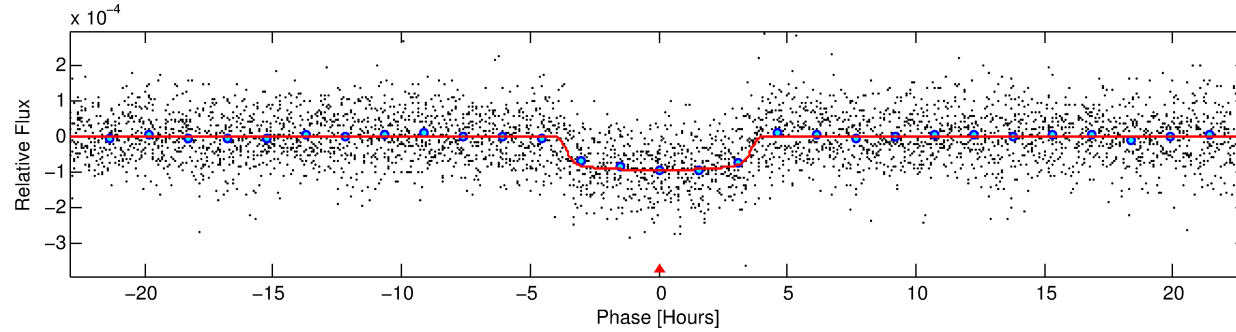
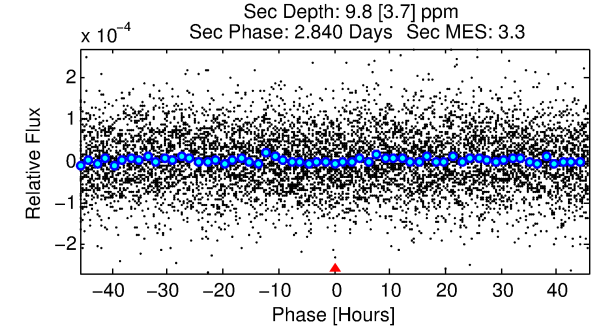
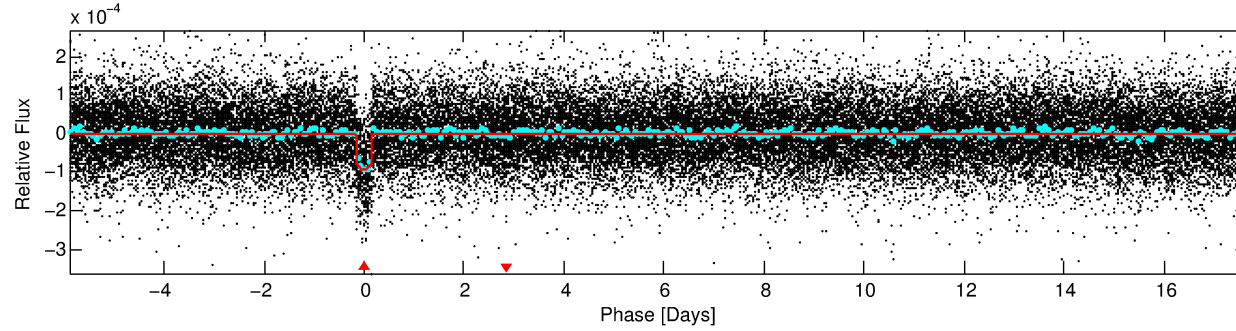
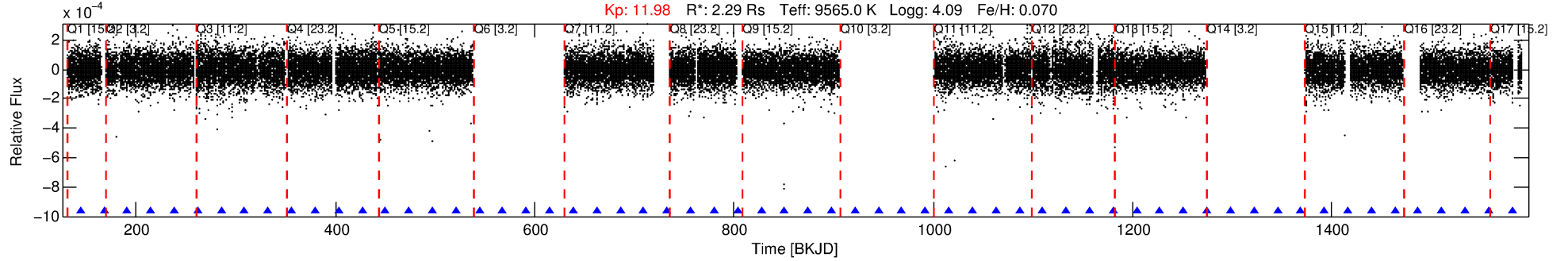
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005022828-01

No Significant Match Found

DV One-Page Summary

KIC: 5022828 Candidate: 1 of 1 Period: 23.554 d
KOI: K02138.01 Corr: 0.968



DV Fit Results:

Period = 23.55402 [0.00012] d
Epoch = 144.2166 [0.0043] BKJD
Rp/R* = 0.0103 [0.0005]
a/R* = 10.14 [3.69]
b = 0.91 [0.07]
Seff = 860.86 [378.53]
Teq = 1381 [152] K
Rp = 2.57 [0.95] Re
a = 0.2134 [0.0625] AU
Ag = 37.24 [21.02] [1.72σ]
Teffp = 5276 [568] K [6.62σ]

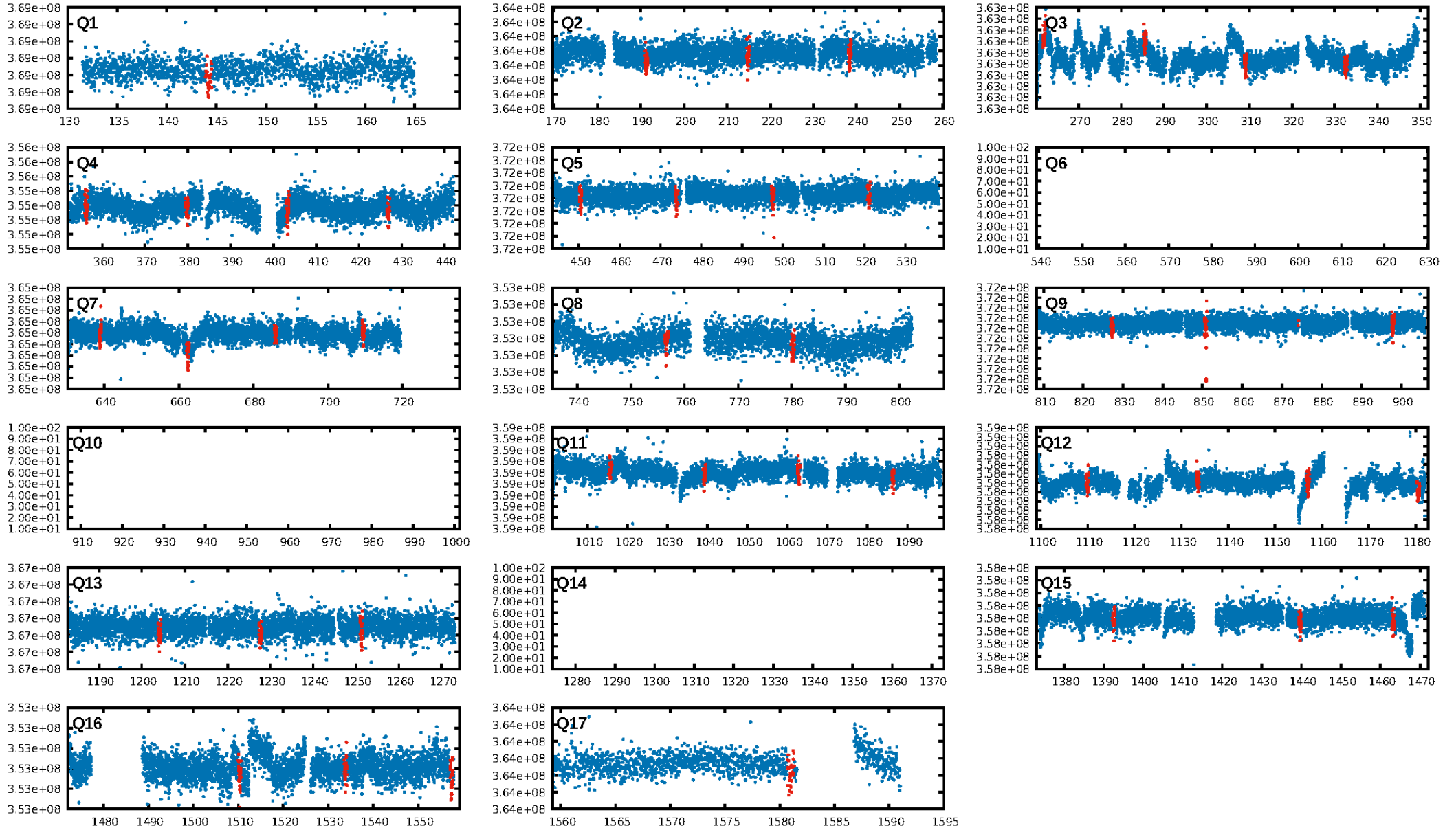
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 55.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.07e-109
RollingBand-fgt: 1.00 [41/41]
GhostDiagnostic-chr: 6.105
Centroid-sig: 12.5%
Centroid-so: 0.527 arcsec [1.18σ]
OotOffset-rm: 0.953 arcsec [2.54σ]
KicOffset-rm: 0.860 arcsec [2.19σ]
OotOffset-st: 1/4/3/5 [13]
KicOffset-st: 1/4/3/5 [13]
DiffImageQuality-fgm: 0.92 [12/13]
DiffImageOverlap-fno: 1.00 [13/13]

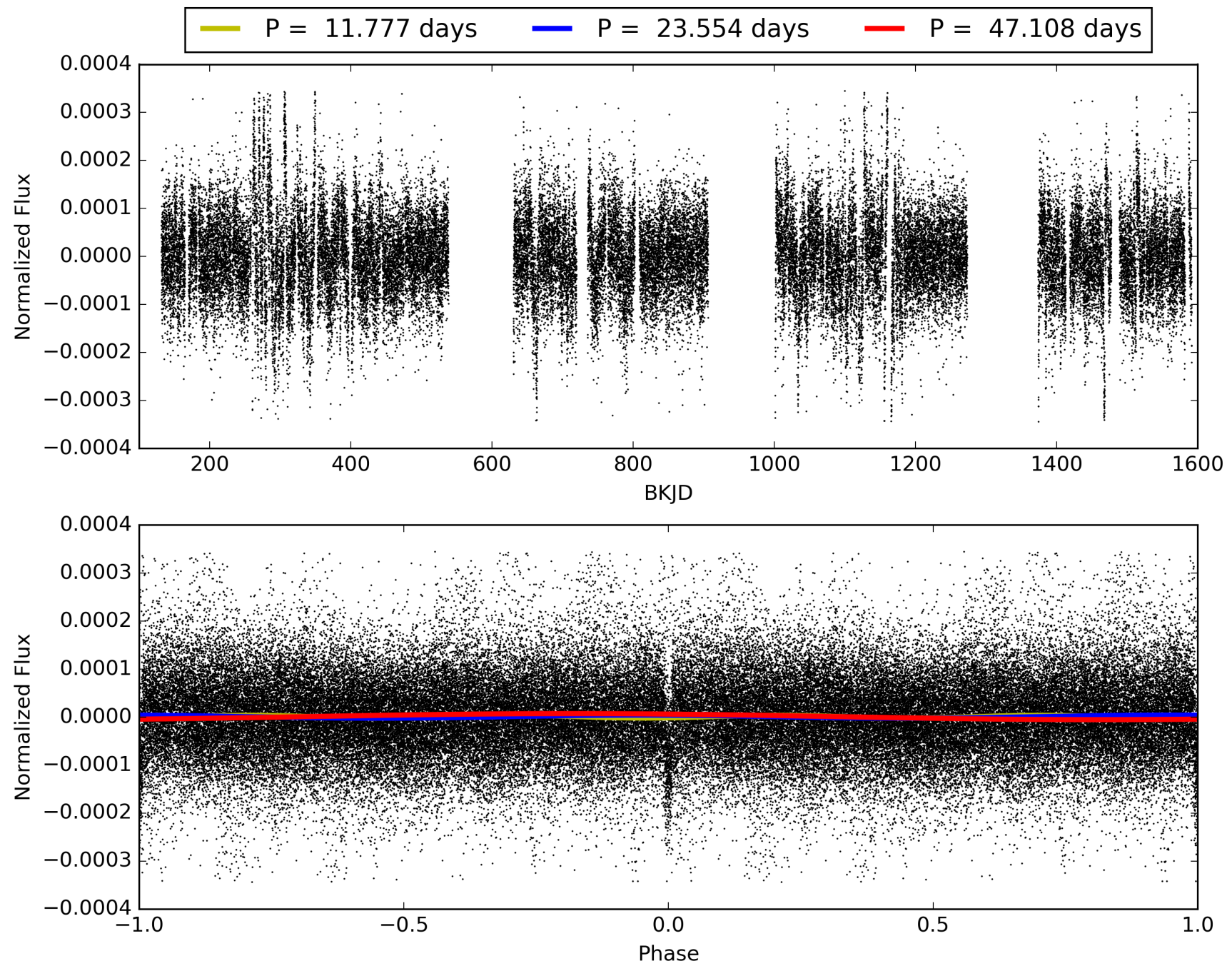
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:10:46 Z

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

TCE 005022828-01, PDC Light Curves

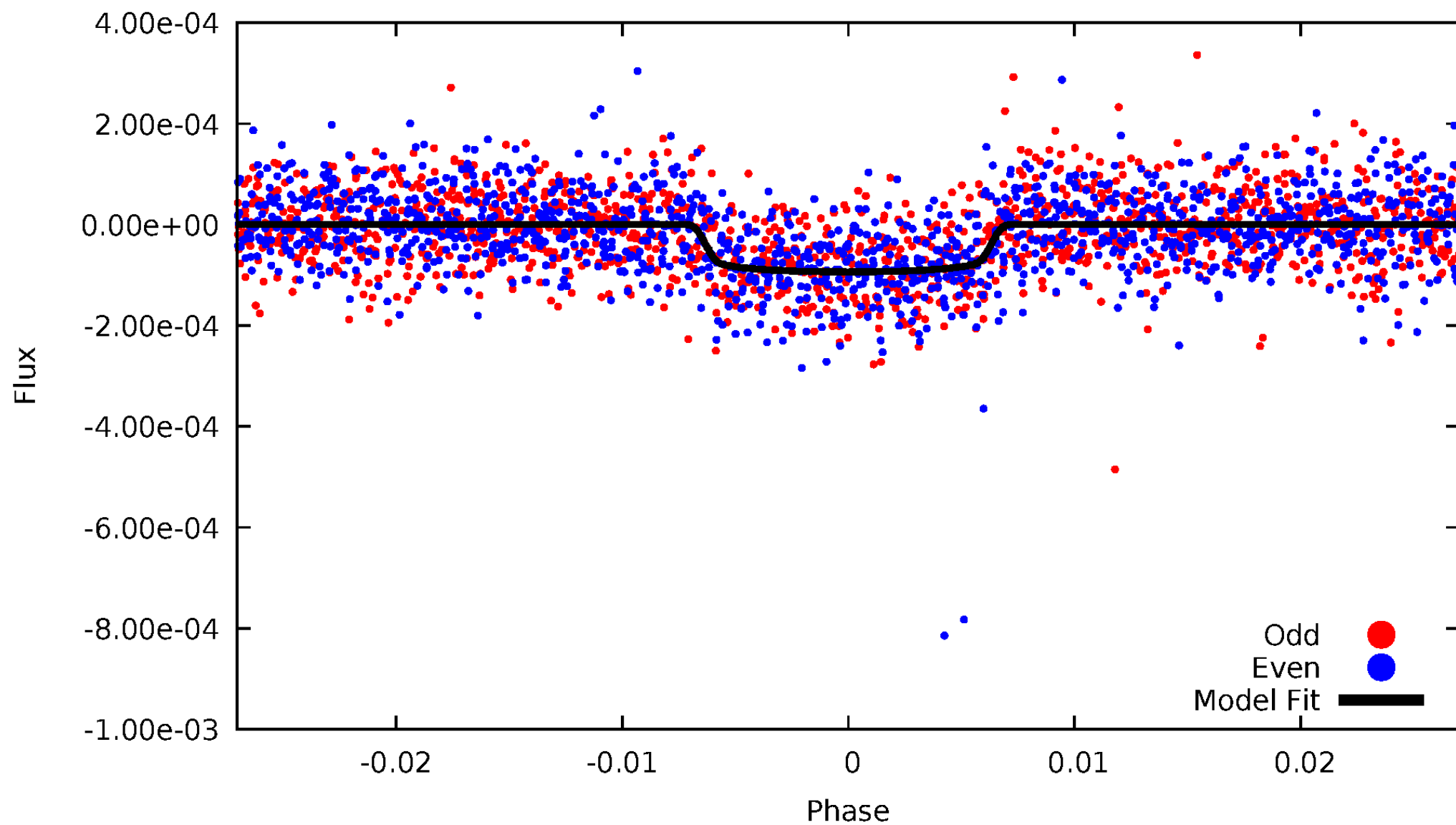


TCE 005022828-01



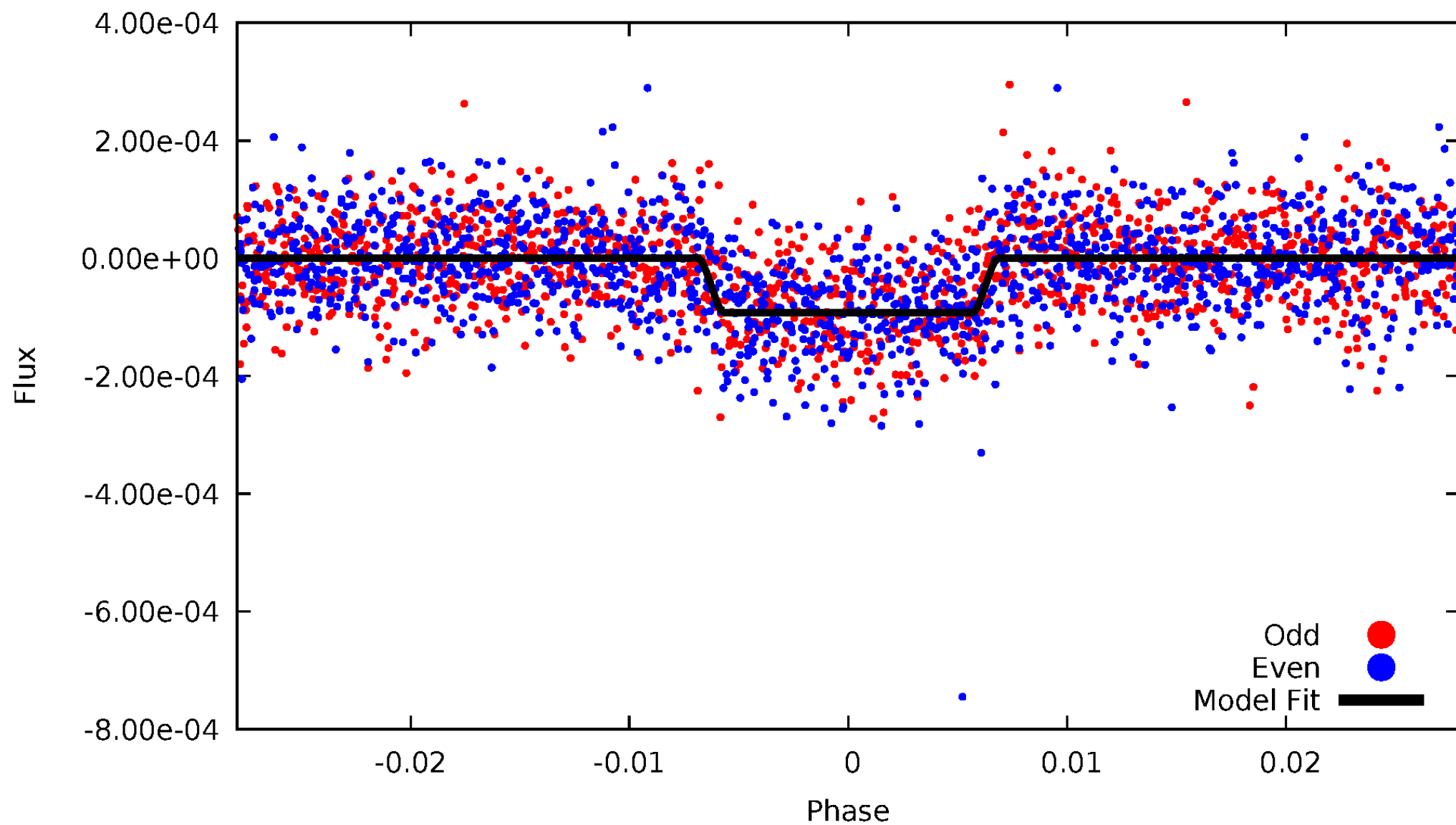
DV Odd/Even

TCE 005022828-01



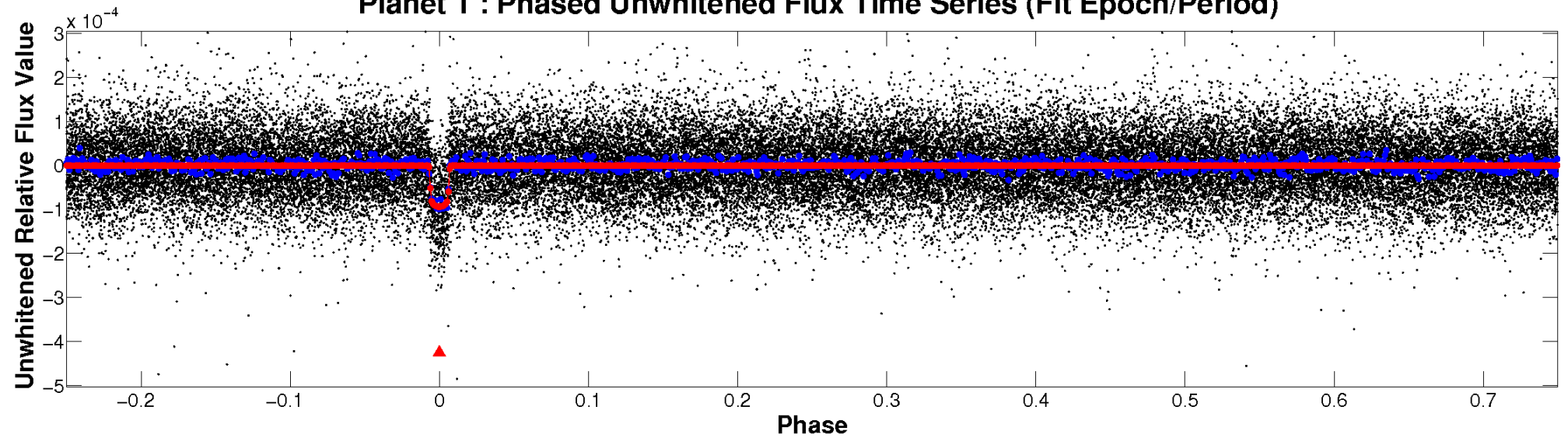
ALT Odd/Even

TCE 005022828-01

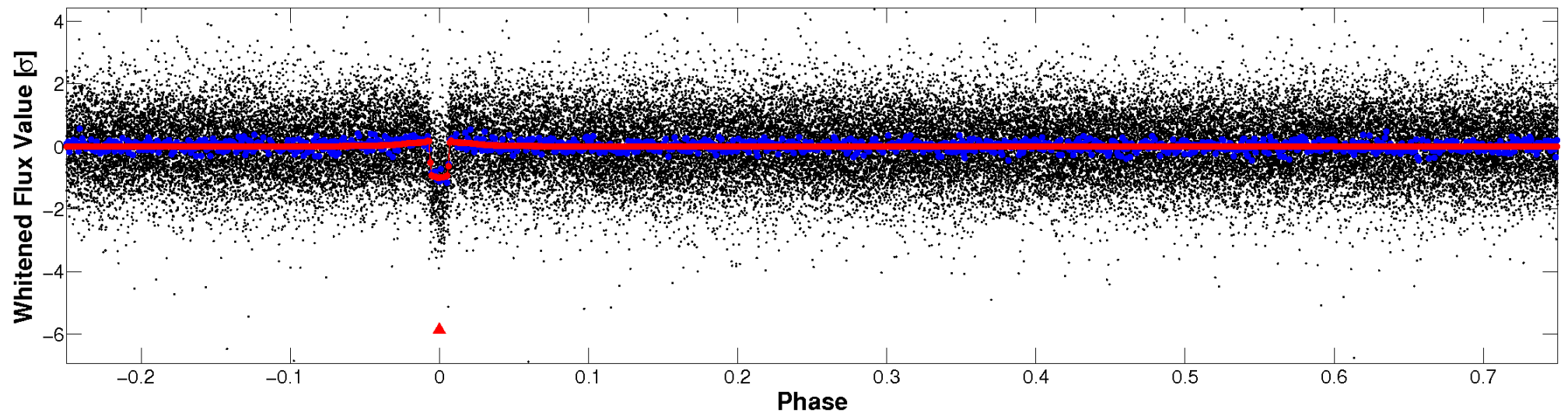


Non-Whitened Vs. Whitened Light Curve

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

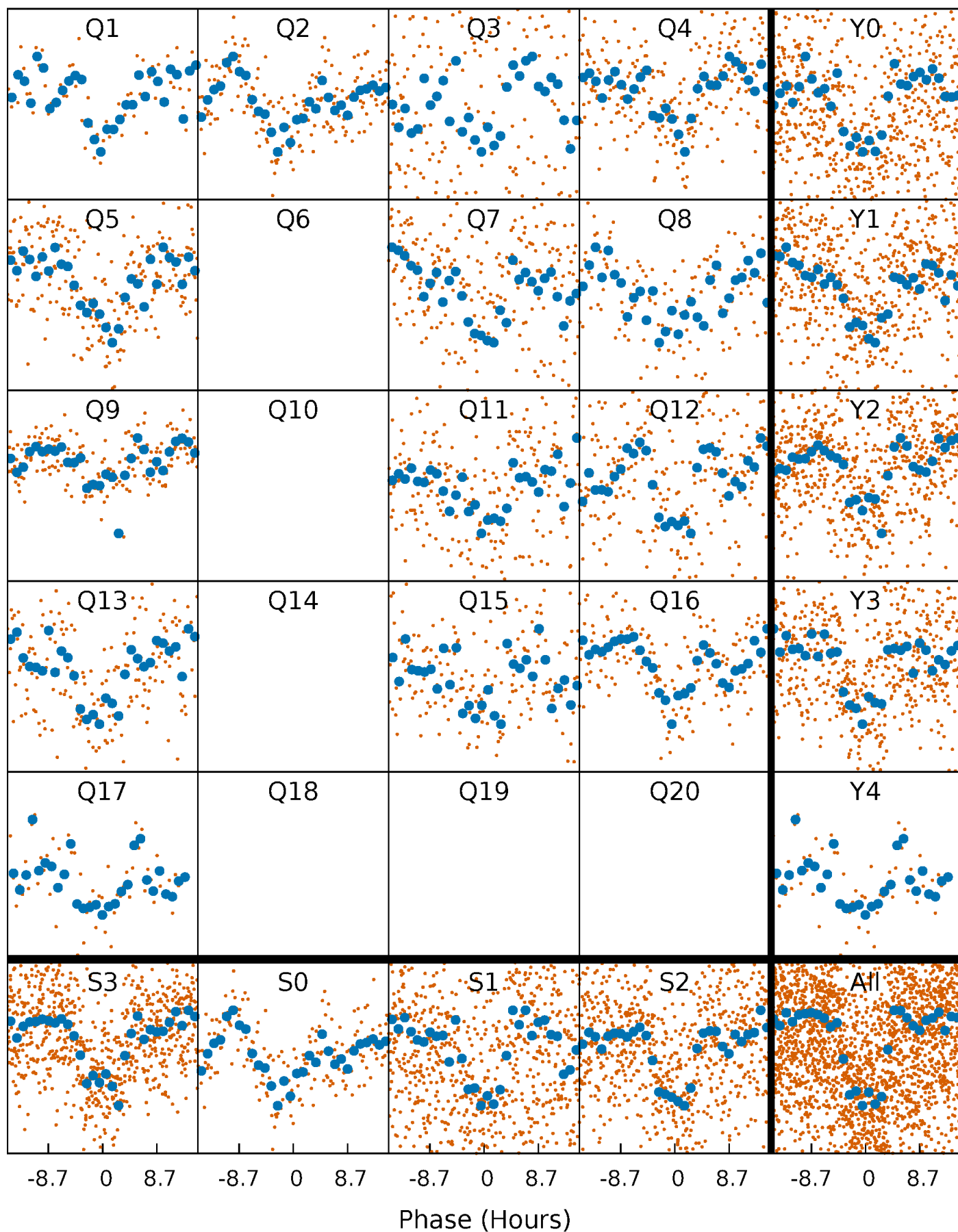


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



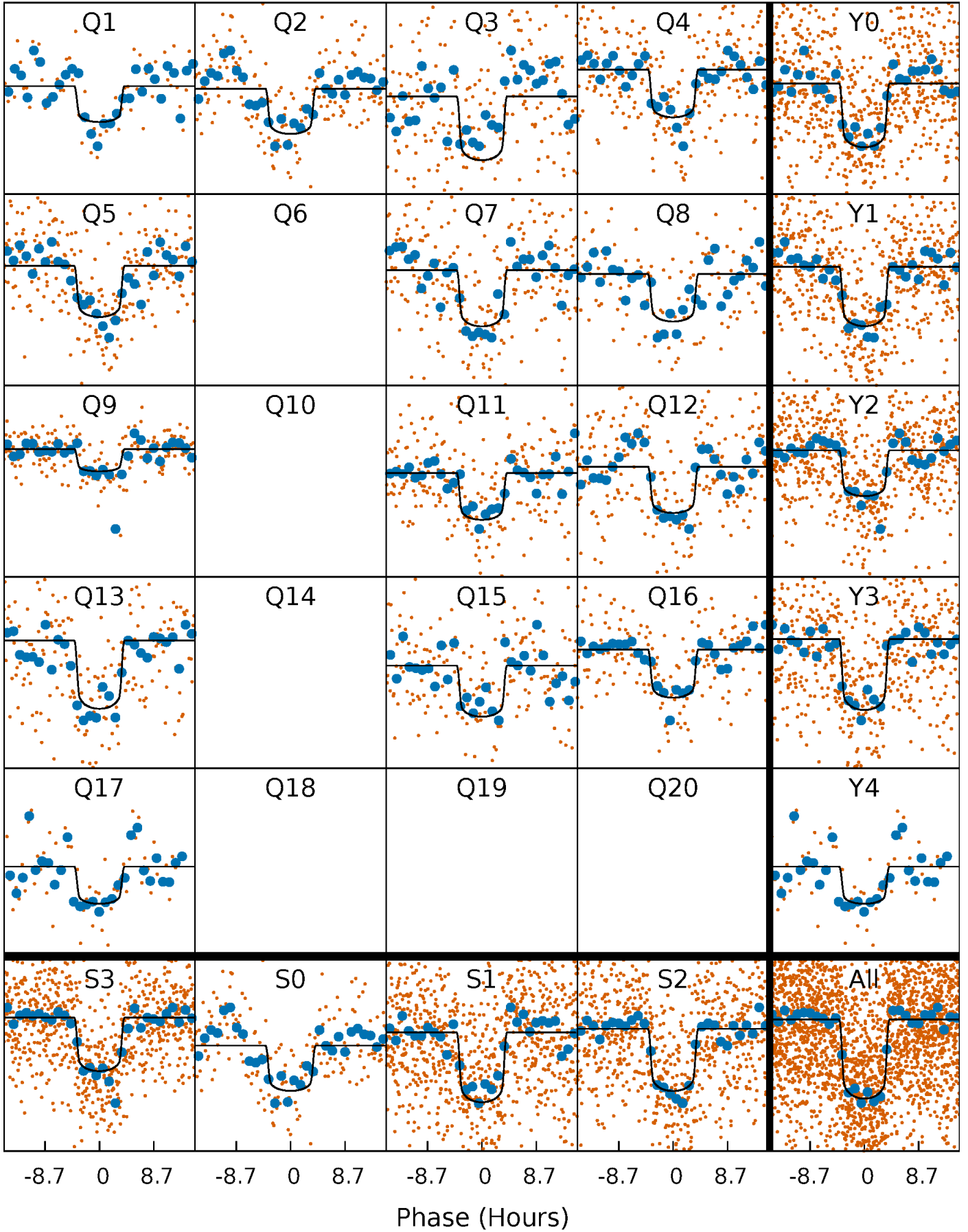
PDC Quarter-Phased Transit Curves

TCE 005022828-01 P= 23.554023 Days $T_0=144.216601$ (BKJD)



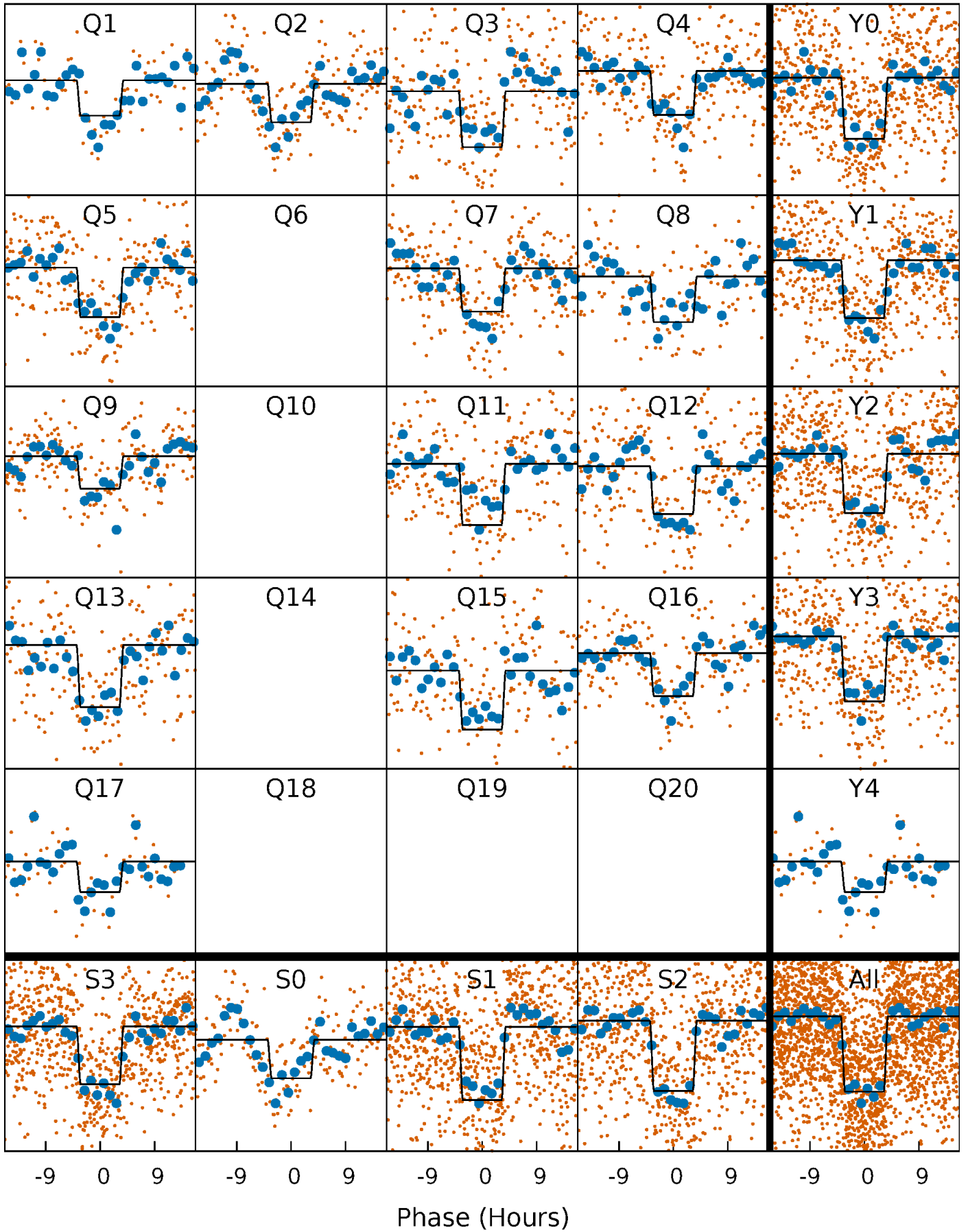
DV Quarter-Phased Transit Curves

TCE 005022828-01 P= 23.554023 Days $T_0=144.216601$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

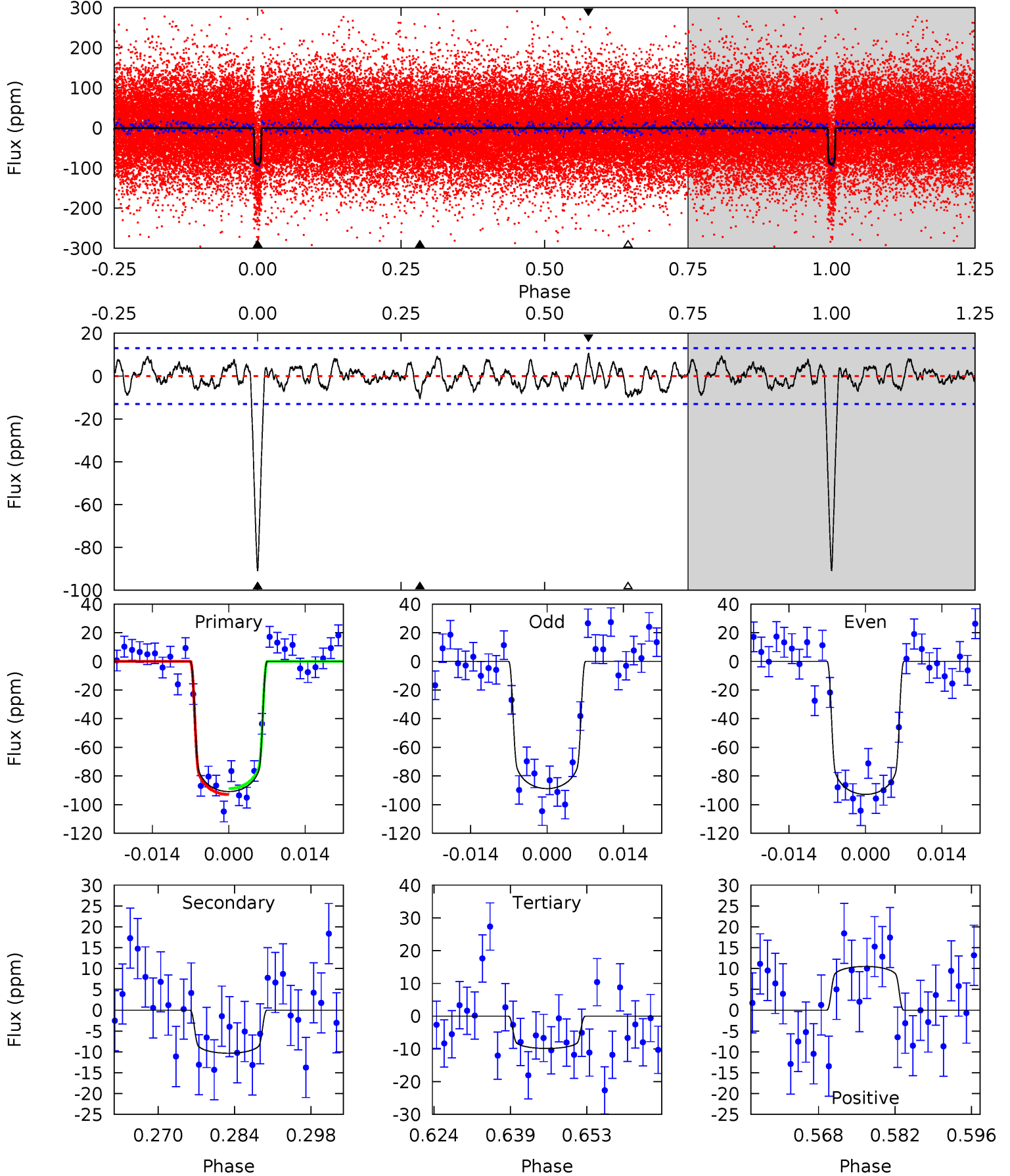
TCE 005022828-01 P= 23.553944 Days $T_0=144.216622$ (BKJD)



DV Model-Shift Uniqueness Test

005022828-01, P = 23.554023 Days, E = 120.662578 Days

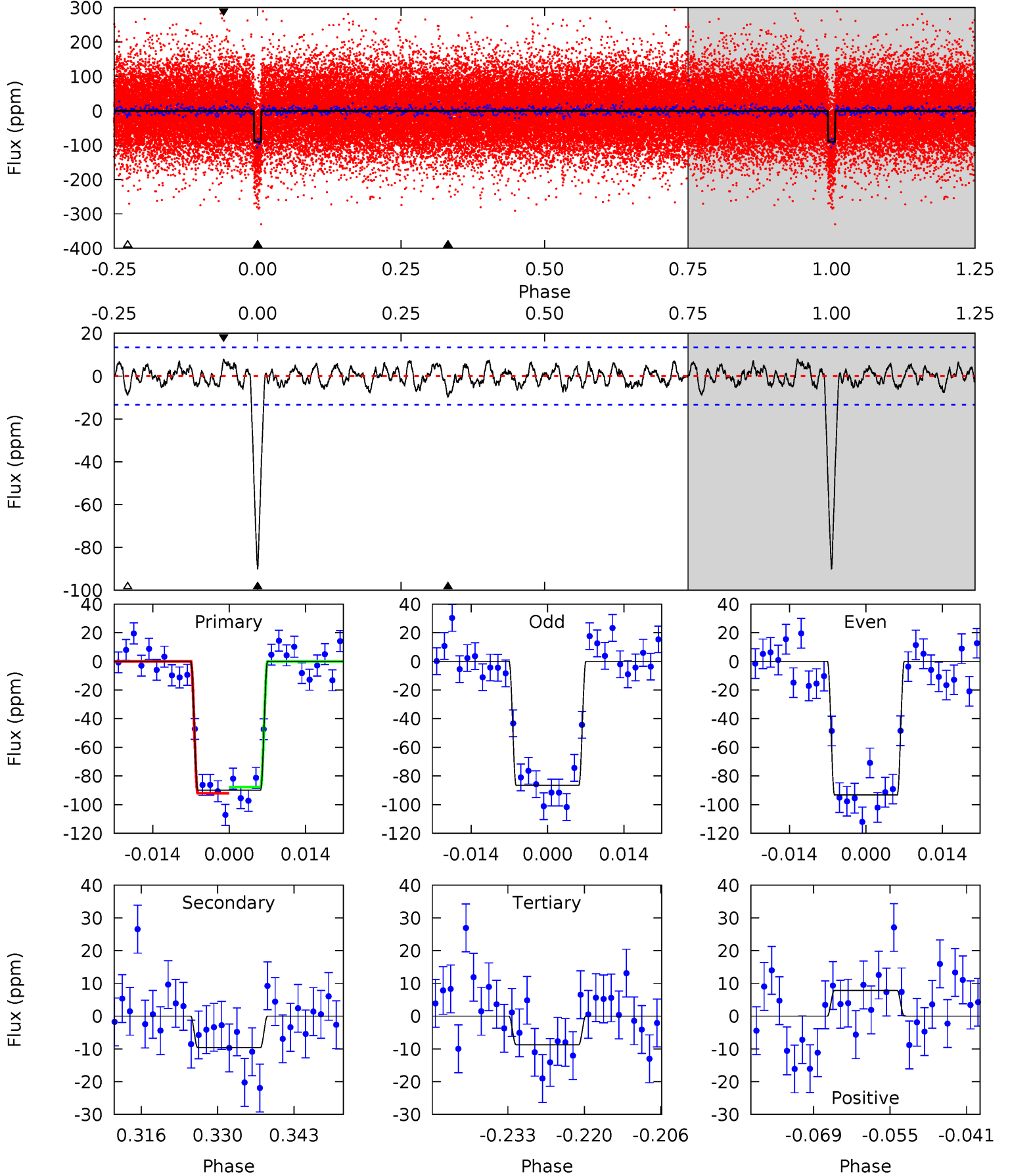
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.5	3.92	3.75	3.98	4.96	2.45	1.53	30.8	30.5	0.17	-0.06	0.77	0.96	0.10	0.80



Alt Model-Shift Uniqueness Test

005022828-01, P = 23.553944 Days, E = 120.662678 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.4	3.57	3.24	2.92	4.97	2.46	1.25	30.1	30.4	0.33	0.65	1.26	0.98	0.08	0.80



Stellar Parameters For KIC 005022828

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9565^{+302}_{-416}	$4.088^{+0.171}_{-0.209}$	$0.070^{+0.150}_{-0.600}$	$2.286^{+0.841}_{-0.688}$	$2.335^{+0.366}_{-0.679}$	$0.275^{+0.316}_{-0.146}$
	+3%/-4%	+4%/-5%	+214%/-857%	+37%/-30%	+16%/-29%	+115%/-53%
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 005022828-01 / KOI 2138.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10 ± 3	$2.60^{+0.51}_{-0.45}$	1945^{+171}_{-157}	5040^{+300}_{-364}	36^{+17}_{-13}
Alt.	-10 ± 3	$2.40^{+0.50}_{-0.41}$	1943^{+172}_{-174}	5131^{+317}_{-402}	41^{+20}_{-16}

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 $A_{obs} \gg 1.0$

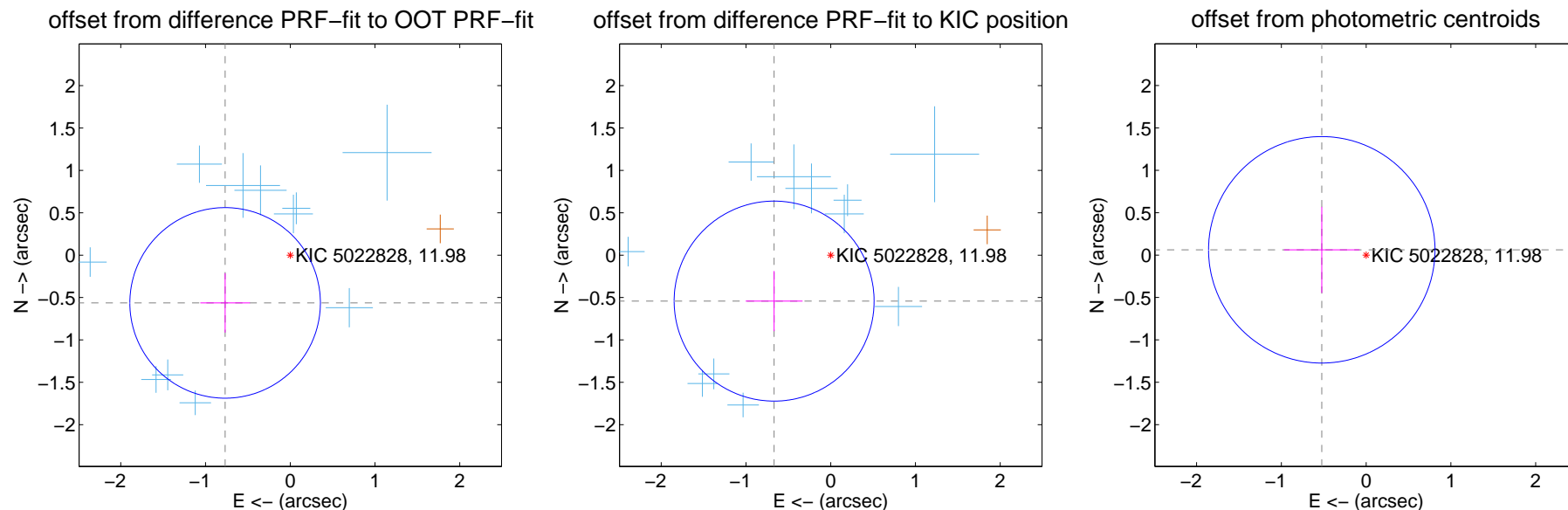
DV Centroid Data

Supplemental centroid analysis for 005022828-01. **Kepler magnitude: 11.98.** Transit SNR 23.74

There are 12 quarters with good PRF difference image offsets

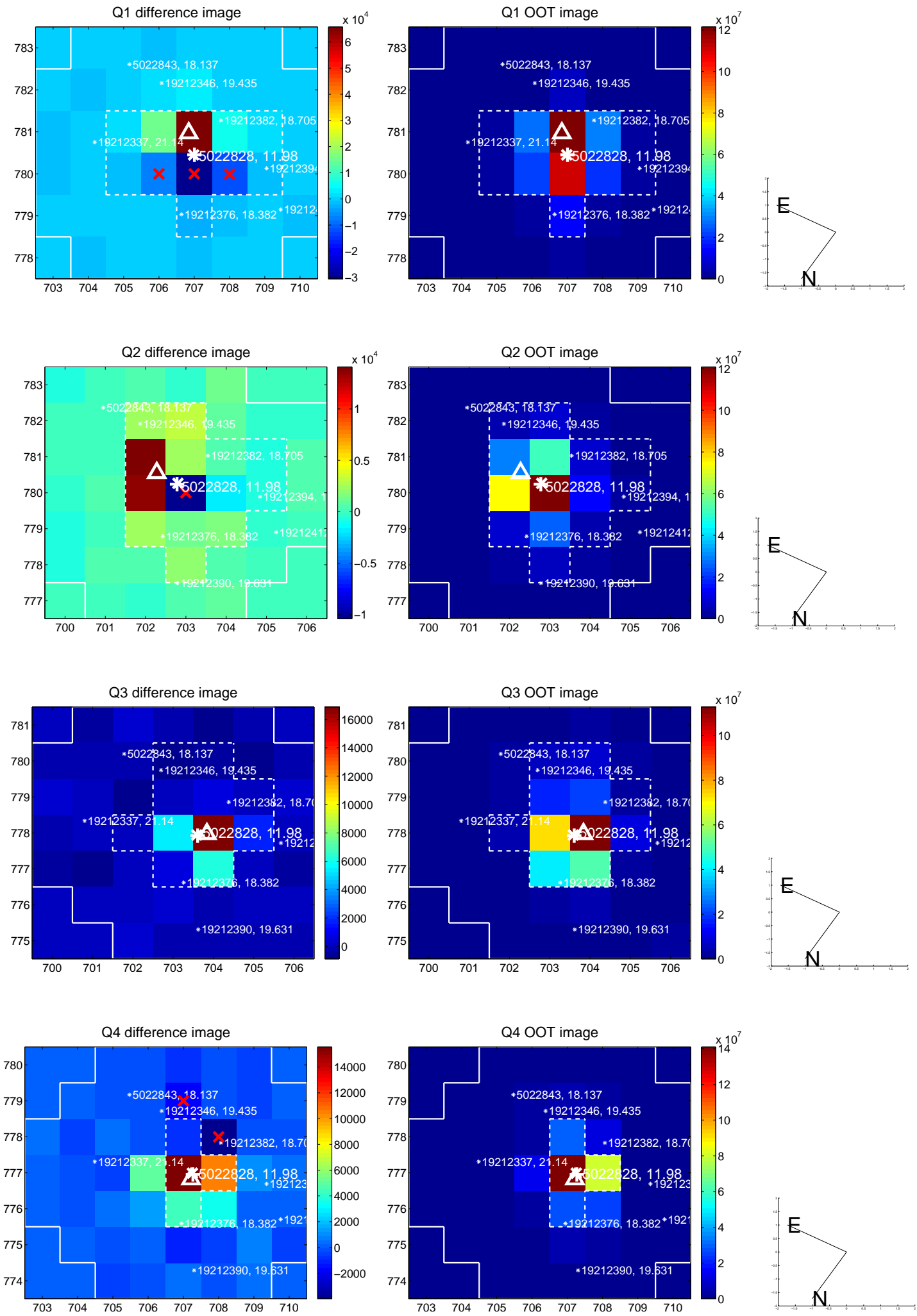
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.953 ± 0.375	2.54	0.769 ± 0.292	-0.563 ± 0.350
PRF-fit source offset from KIC position	0.860 ± 0.393	2.19	0.668 ± 0.335	-0.542 ± 0.355
photometric centroid source offset	0.53 ± 0.45	1.18	0.52 ± 0.44	0.06 ± 0.51

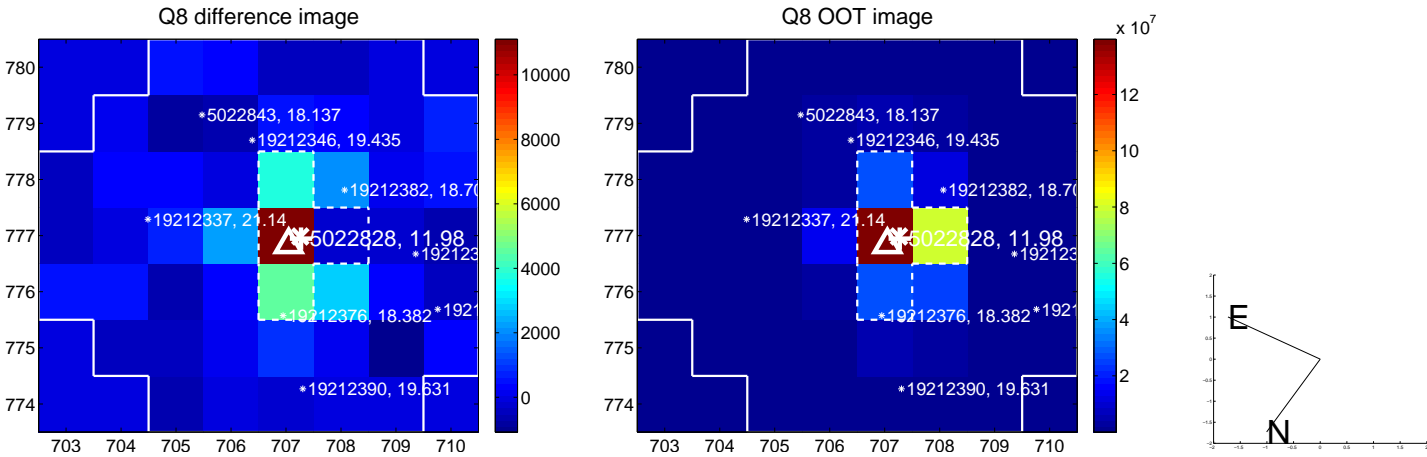
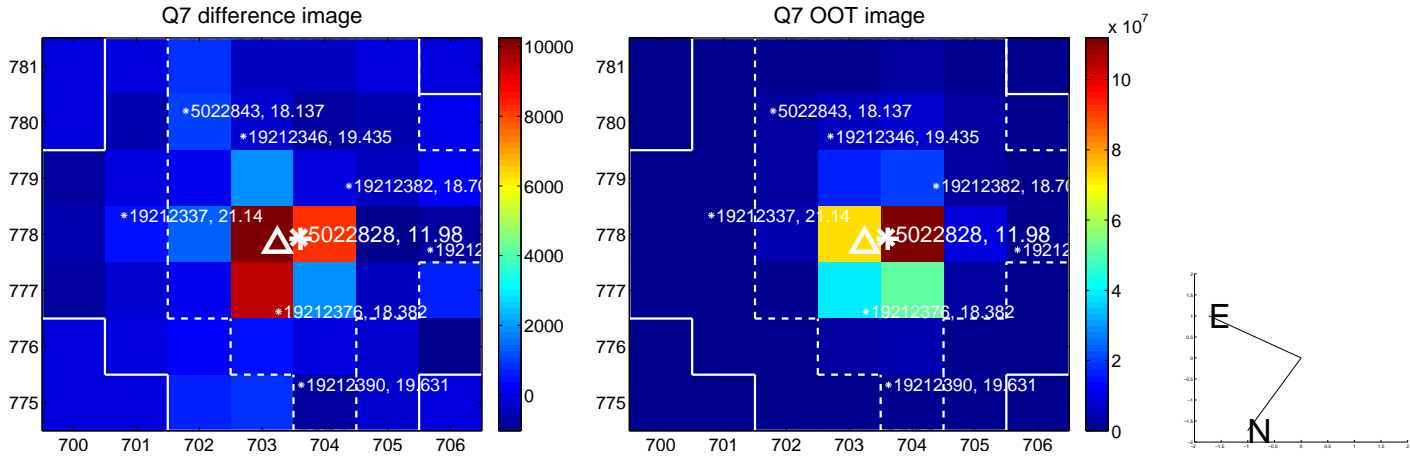
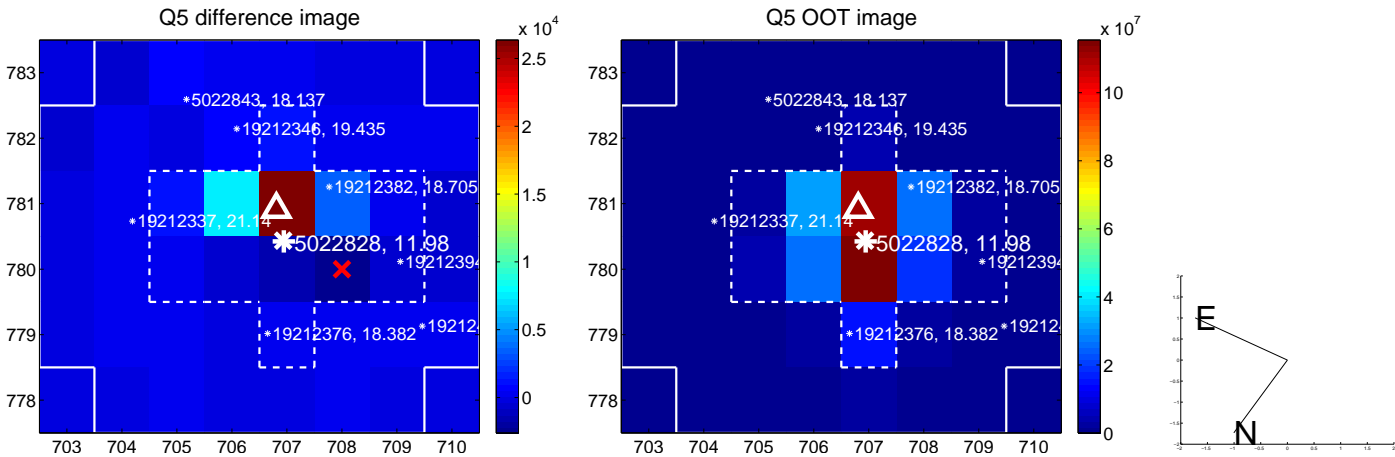


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

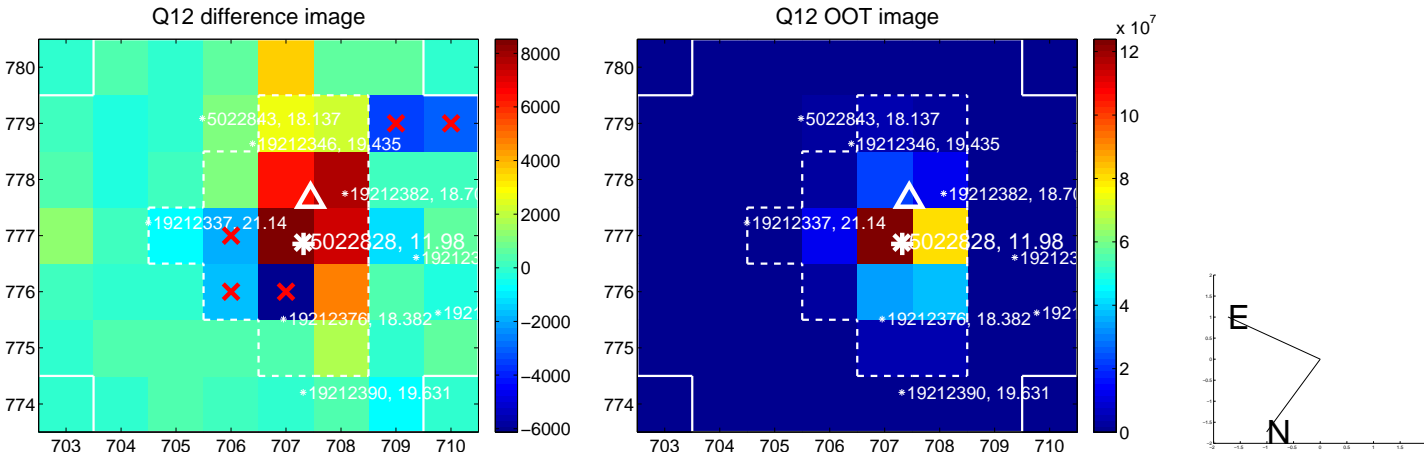
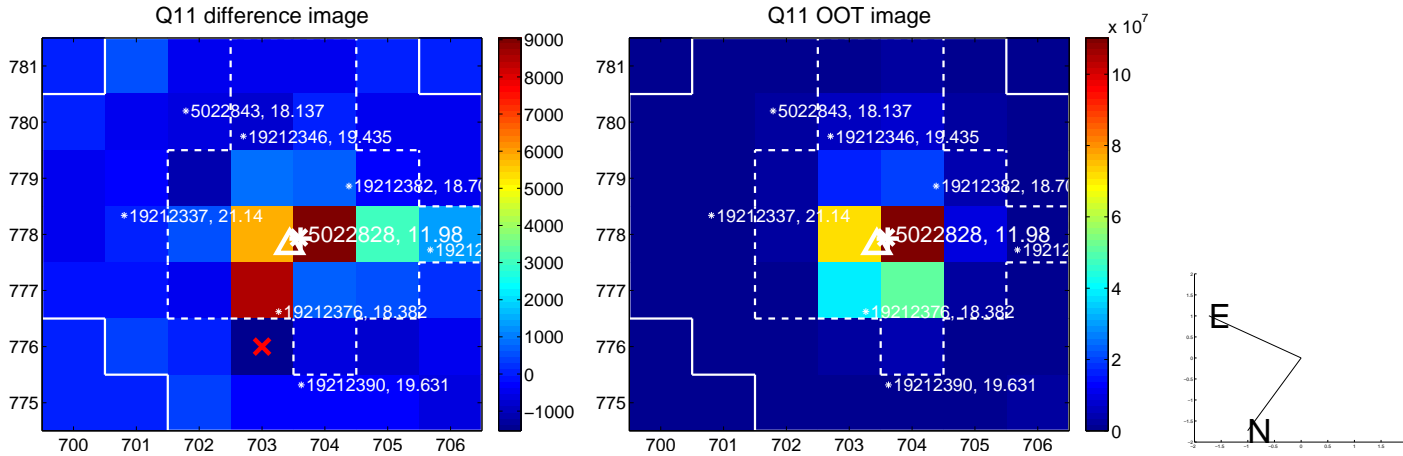
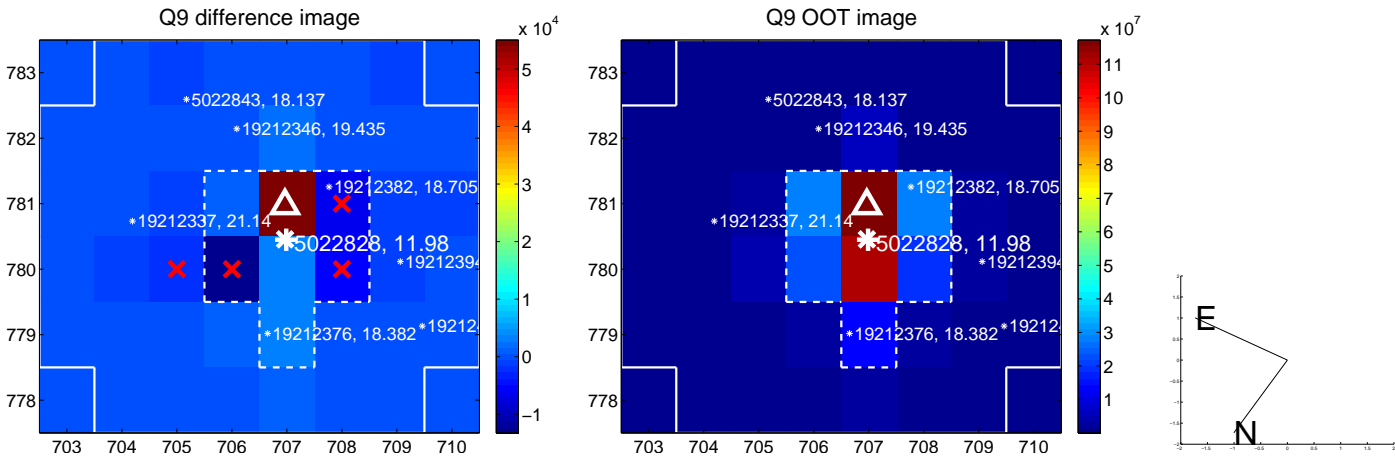
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



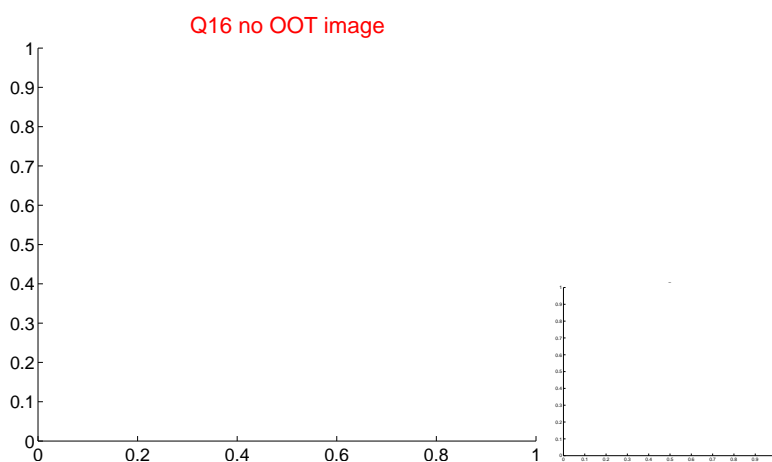
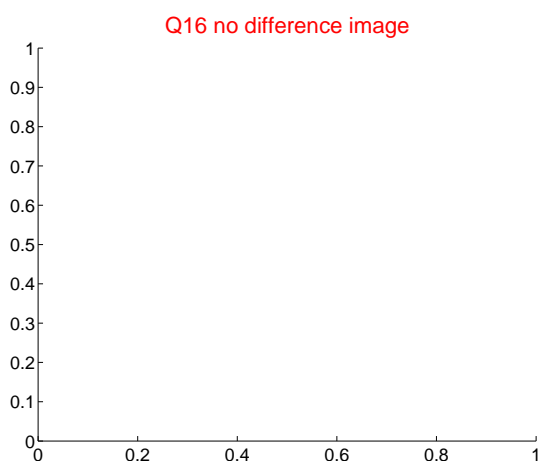
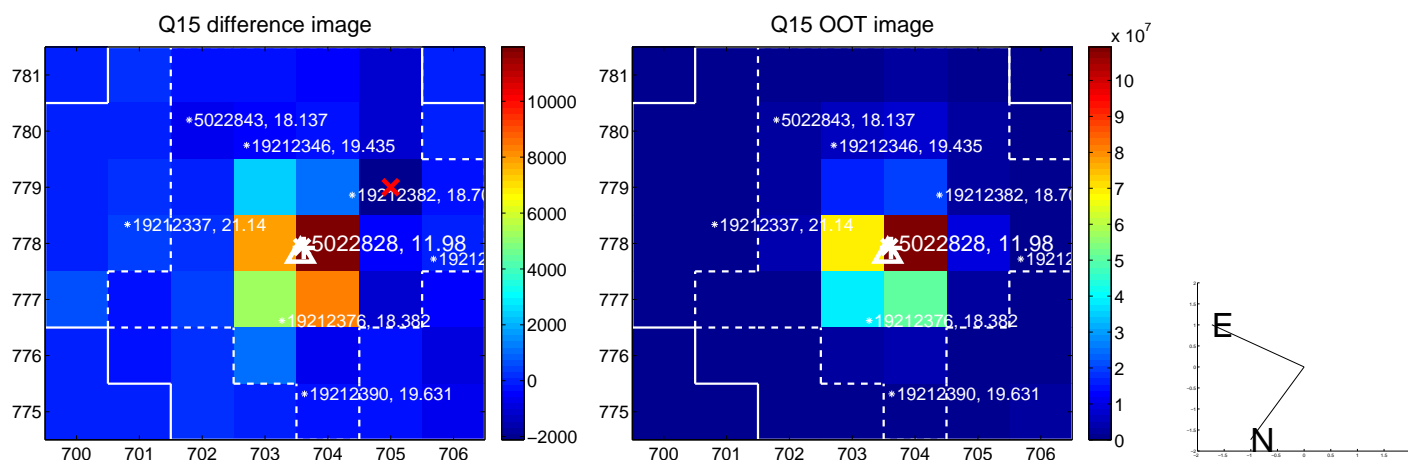
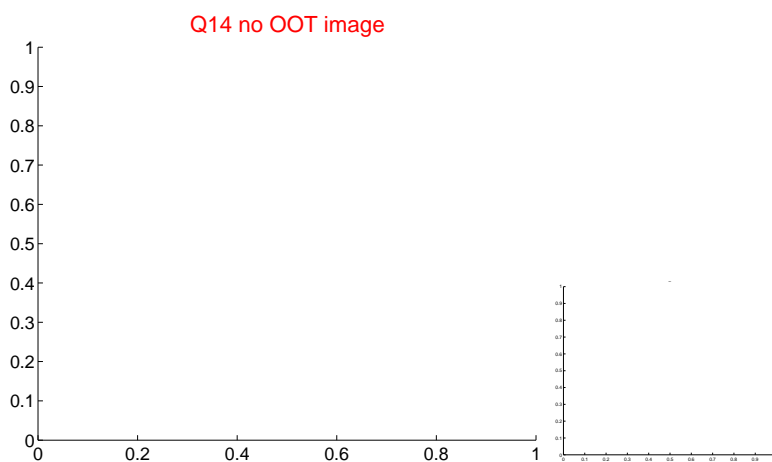
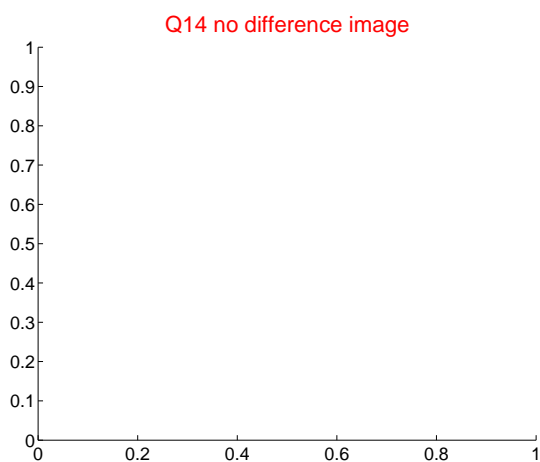
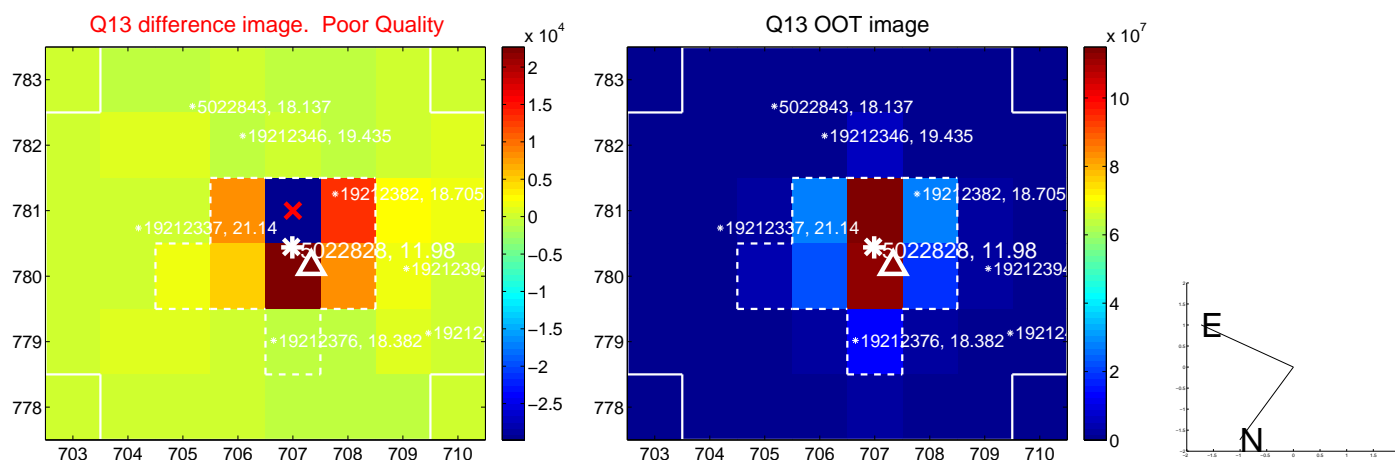
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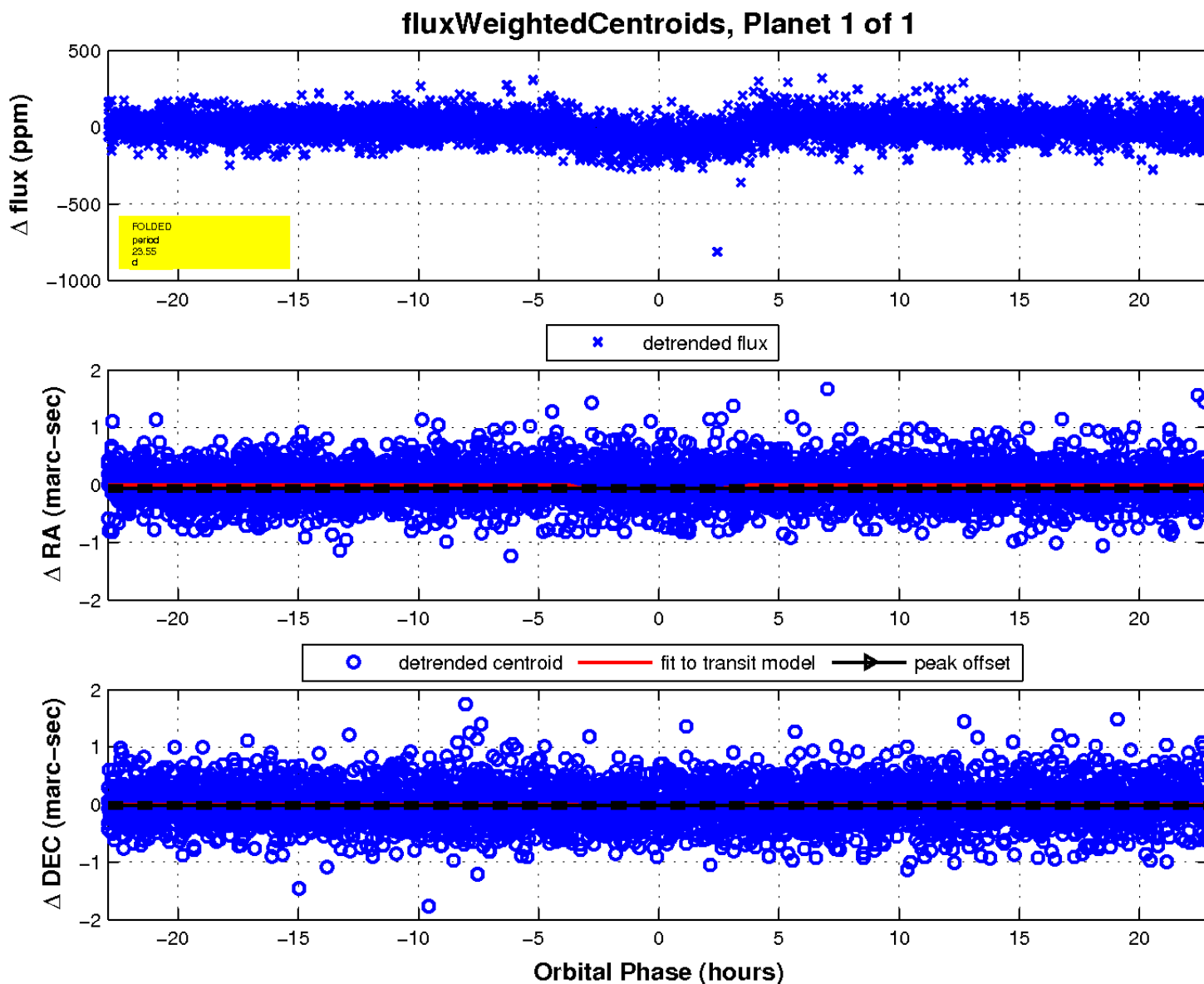
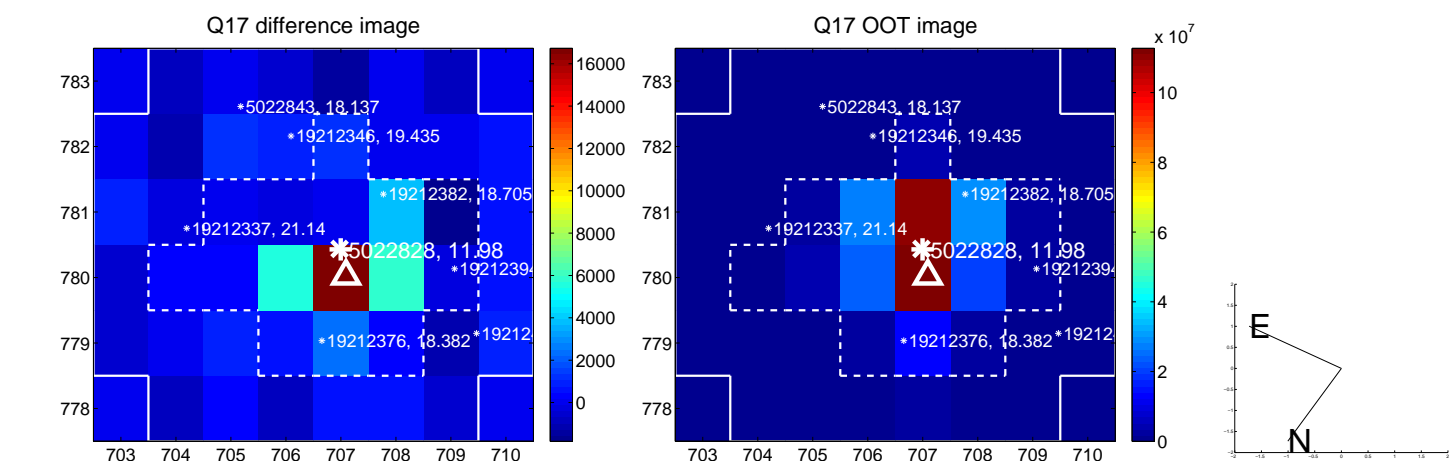
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UKIRT Image

Declination

