

KIC 005629985

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})
005629985-01	OBS	1578.01	2.271887	132.534767	114.5	6.187	20.0	22.8	0.86	5788	1.58	713.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005629985-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET—HALO_GHOST

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

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

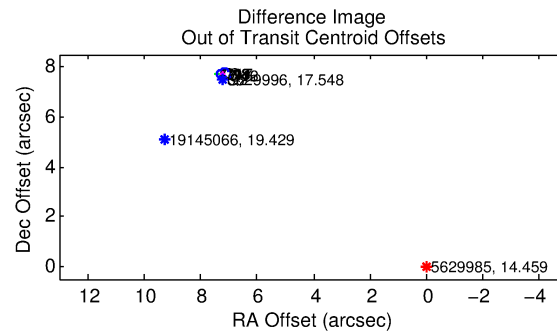
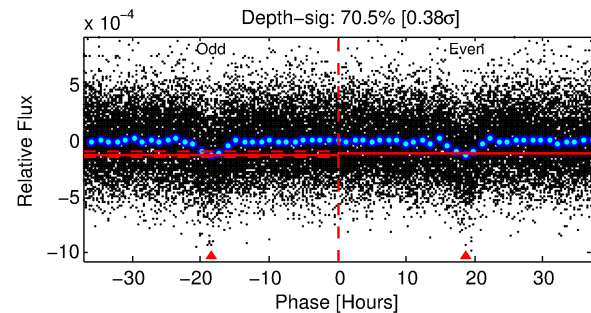
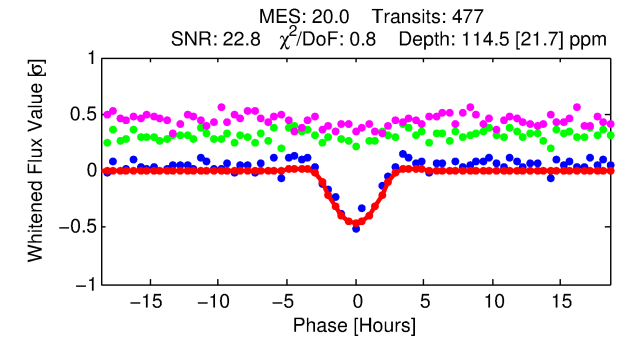
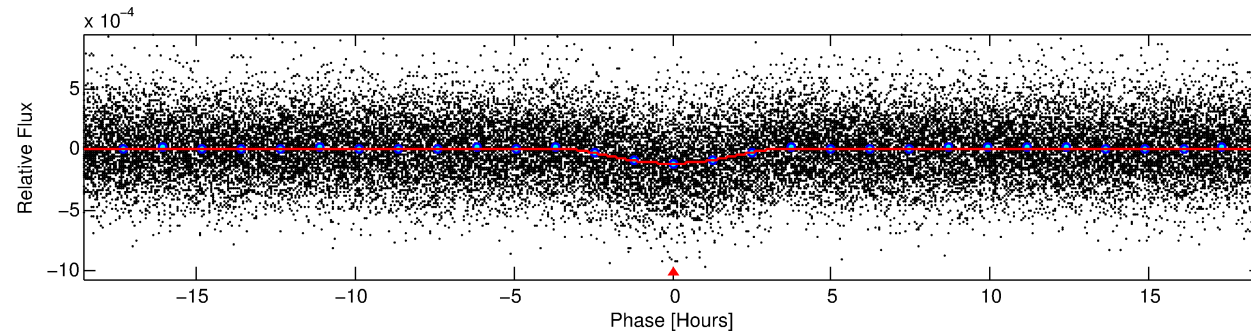
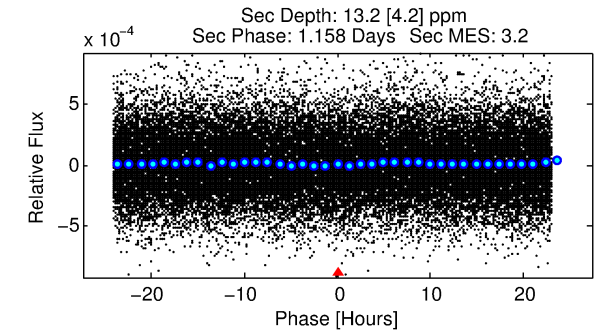
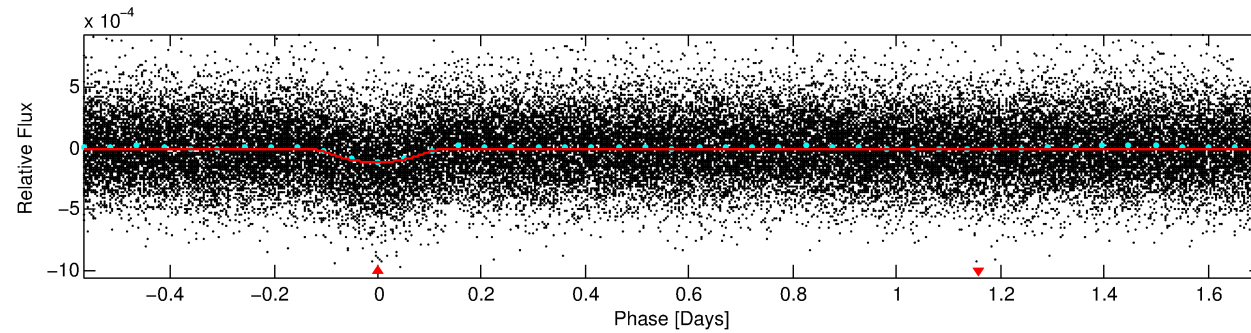
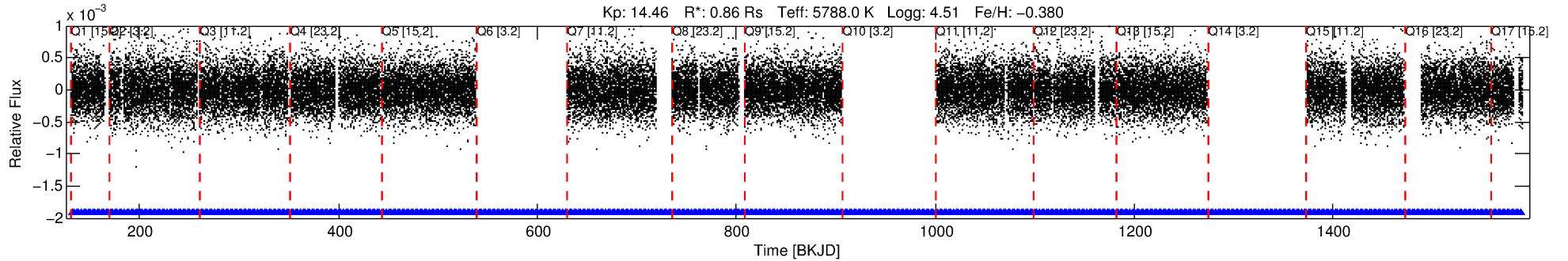
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005629985-01

No Significant Match Found

DV One-Page Summary

KIC: 5629985 Candidate: 1 of 1 Period: 2.272 d
KOI: K01578.01 Corr: 0.924



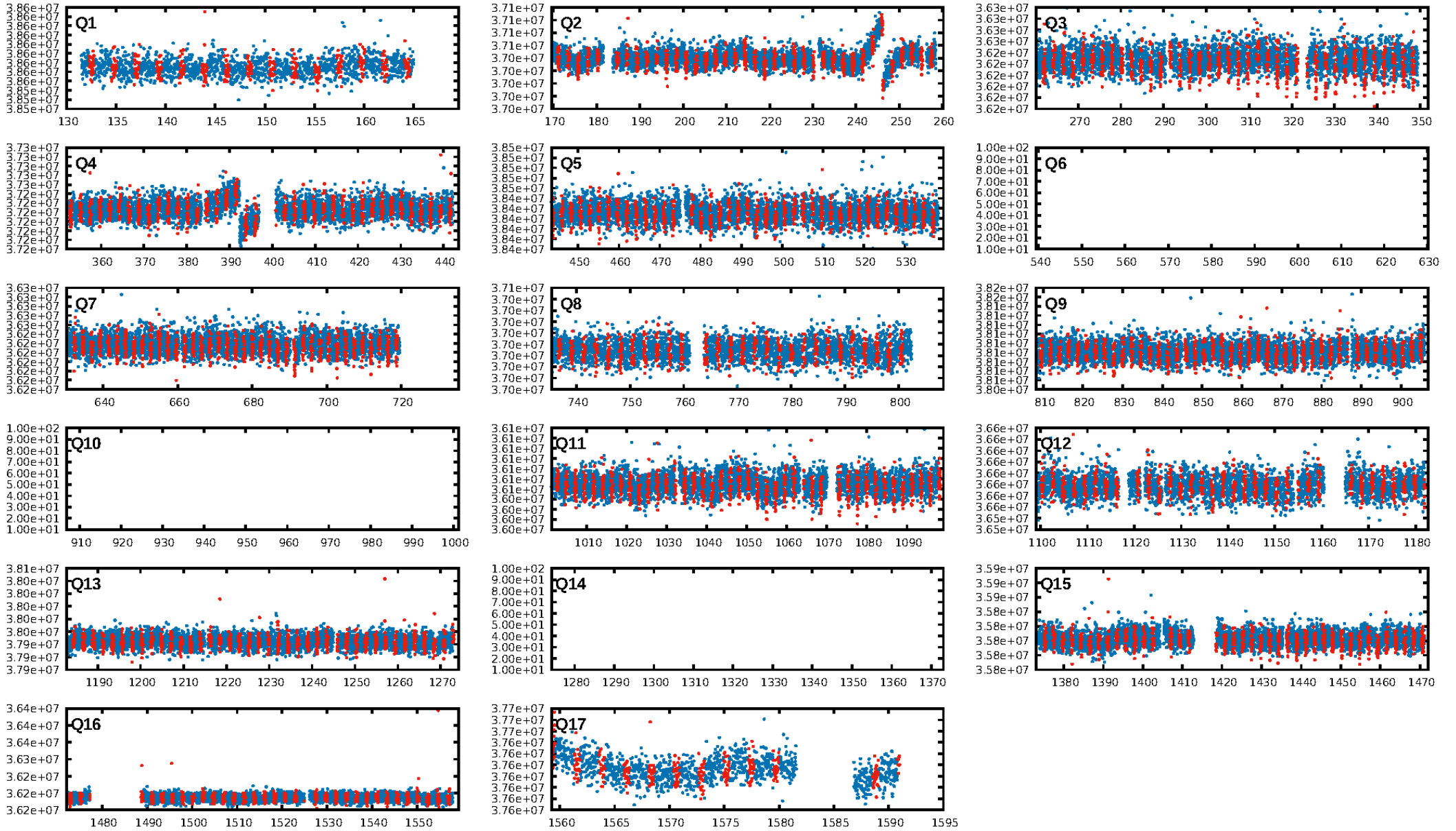
DV Fit Results:

Period = 2.27189 [0.00002] d
Epoch = 132.5348 [0.0055] BKJD
Rp/R* = 0.0170 [0.0133]
a/R* = 1.17 [0.07]
b = 0.99 [0.02]
Seff = 713.63 [235.27]
Teq = 1318 [109] K
Rp = 1.58 [1.31] Re
a = 0.0321 [0.0070] AU
Ag = 3.00 [4.89] [0.41σ]
Teffp = 2681 [1076] K [1.26σ]

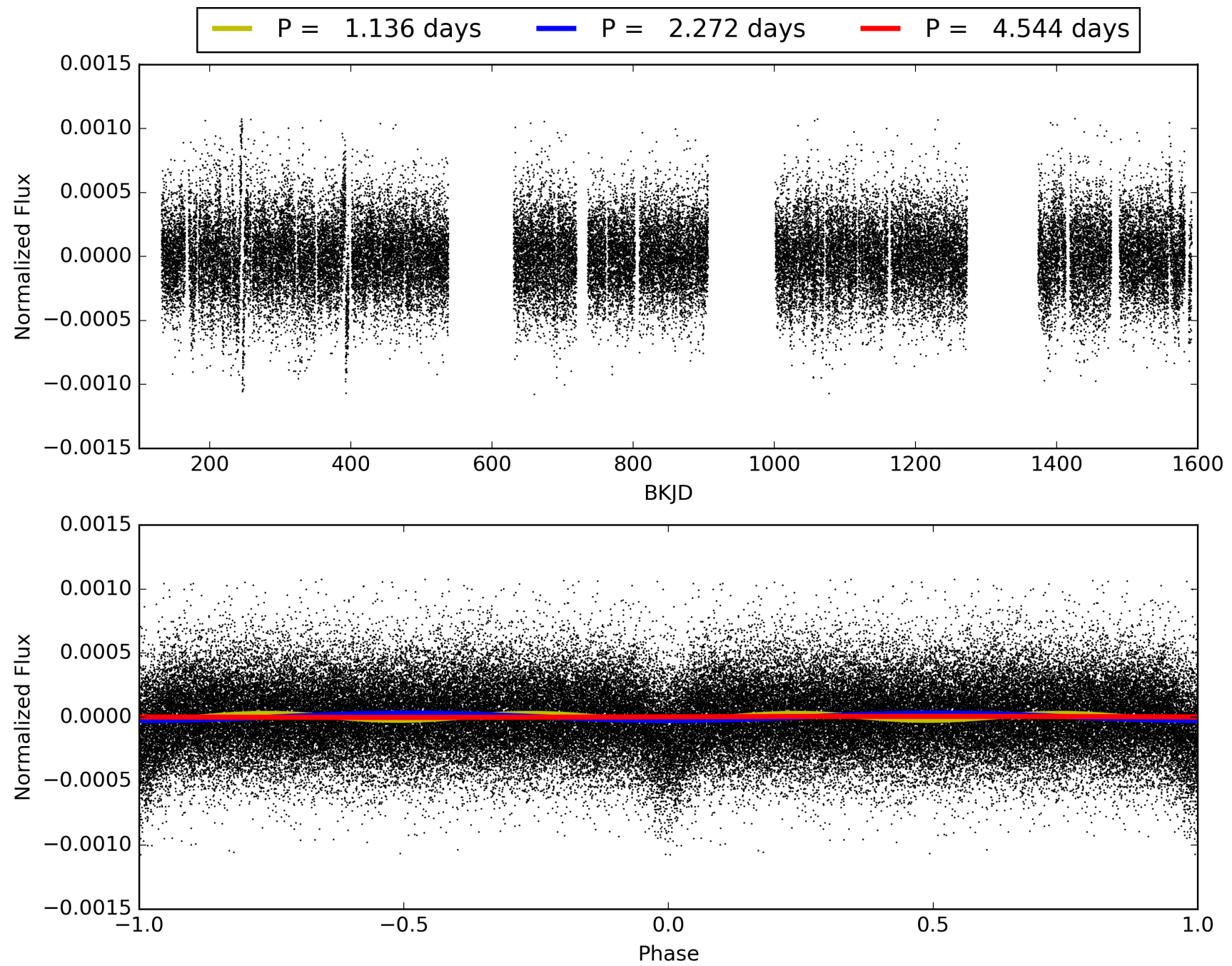
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.16e-81
RollingBand-fgt: 1.00 [450/450]
GhostDiagnostic-chr: -0.1083
Centroid-sig: 0.0%
Centroid-so: 101.412 arcsec [139.41σ]
OotOffset-rm: 10.530 arcsec [133.06σ]
KicOffset-rm: 10.370 arcsec [132.57σ]
OotOffset-st: 1/0/4/4 [9]
KicOffset-st: 1/0/4/4 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005629985-01, PDC Light Curves

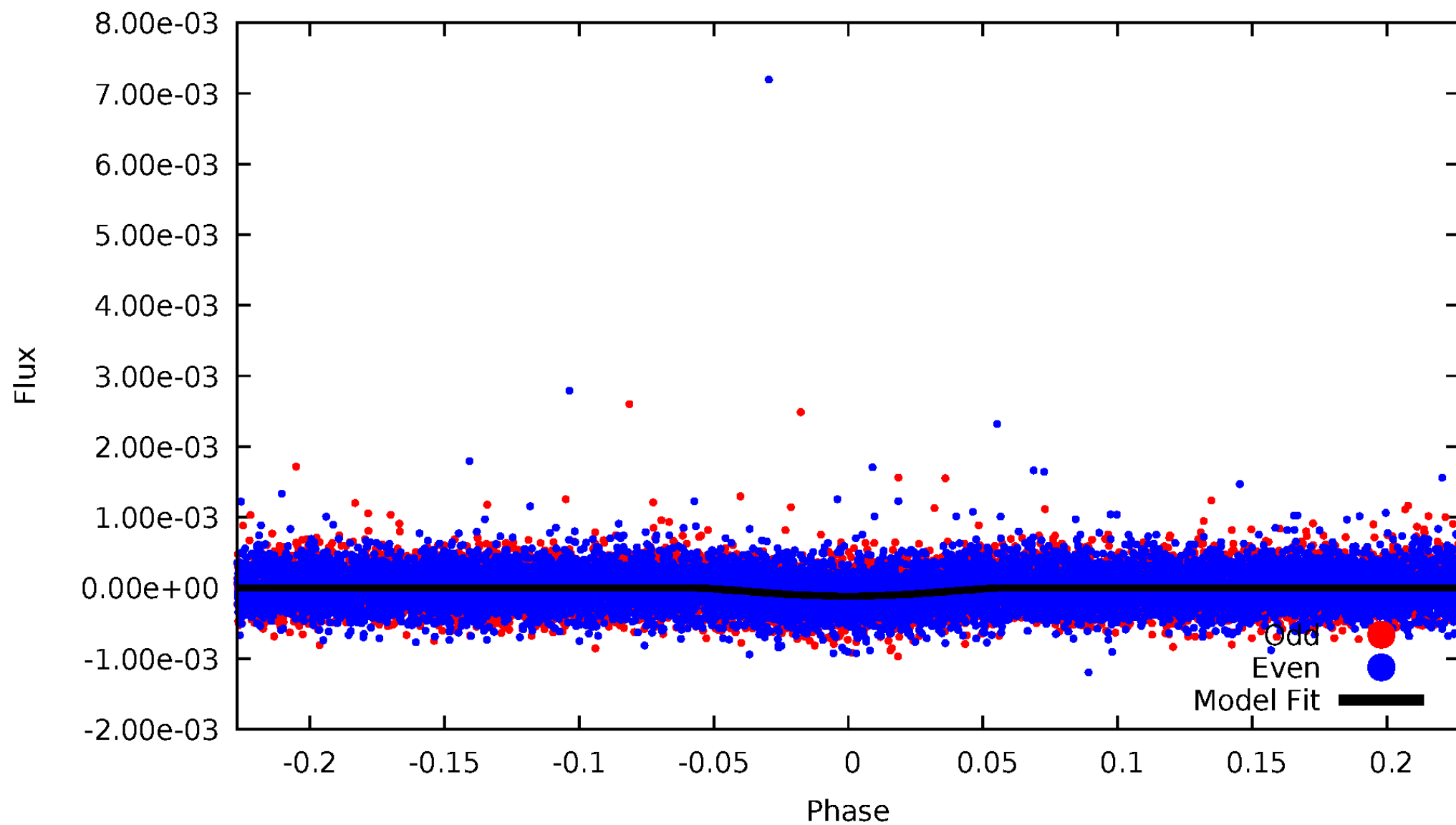


TCE 005629985-01



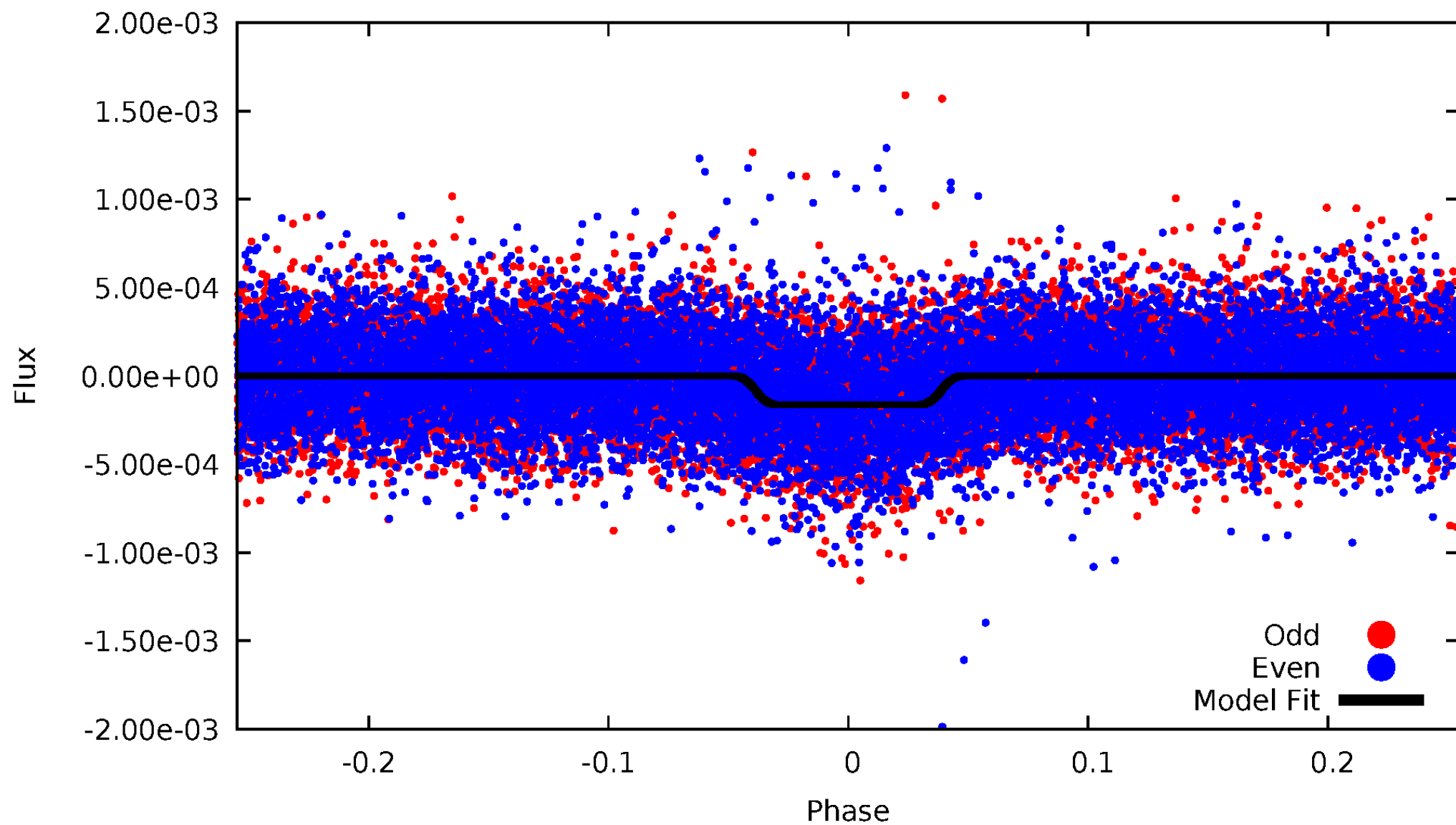
DV Odd/Even

TCE 005629985-01



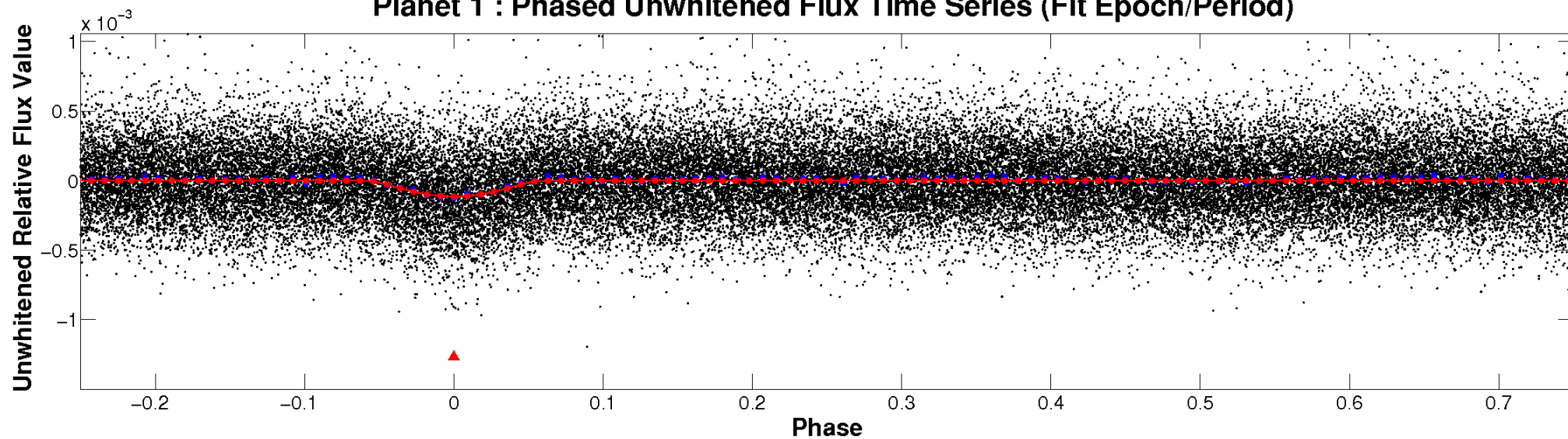
ALT Odd/Even

TCE 005629985-01

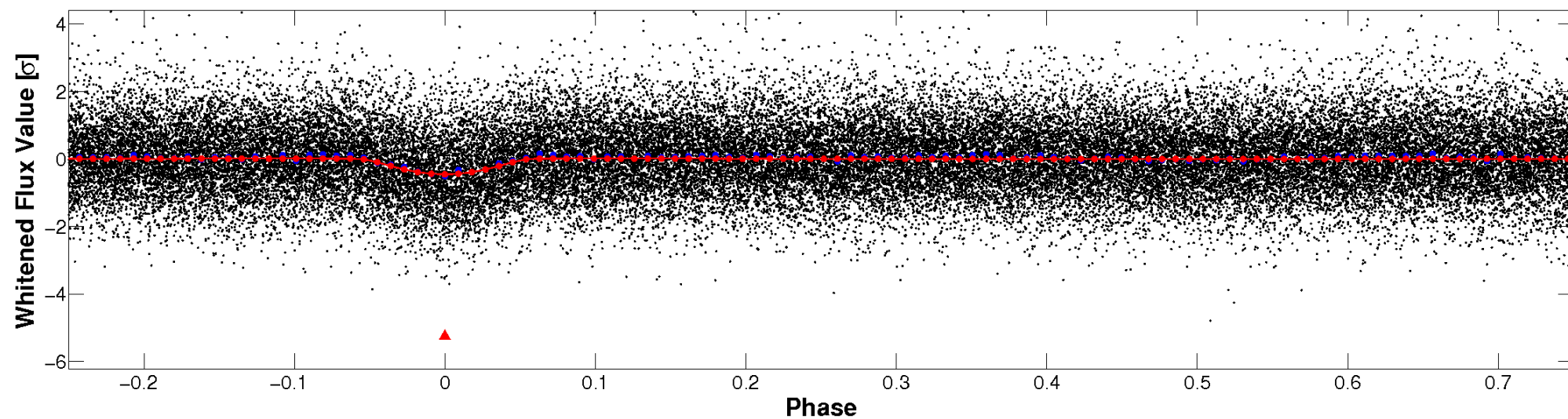


Non-Whitened Vs. Whitened Light Curve

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

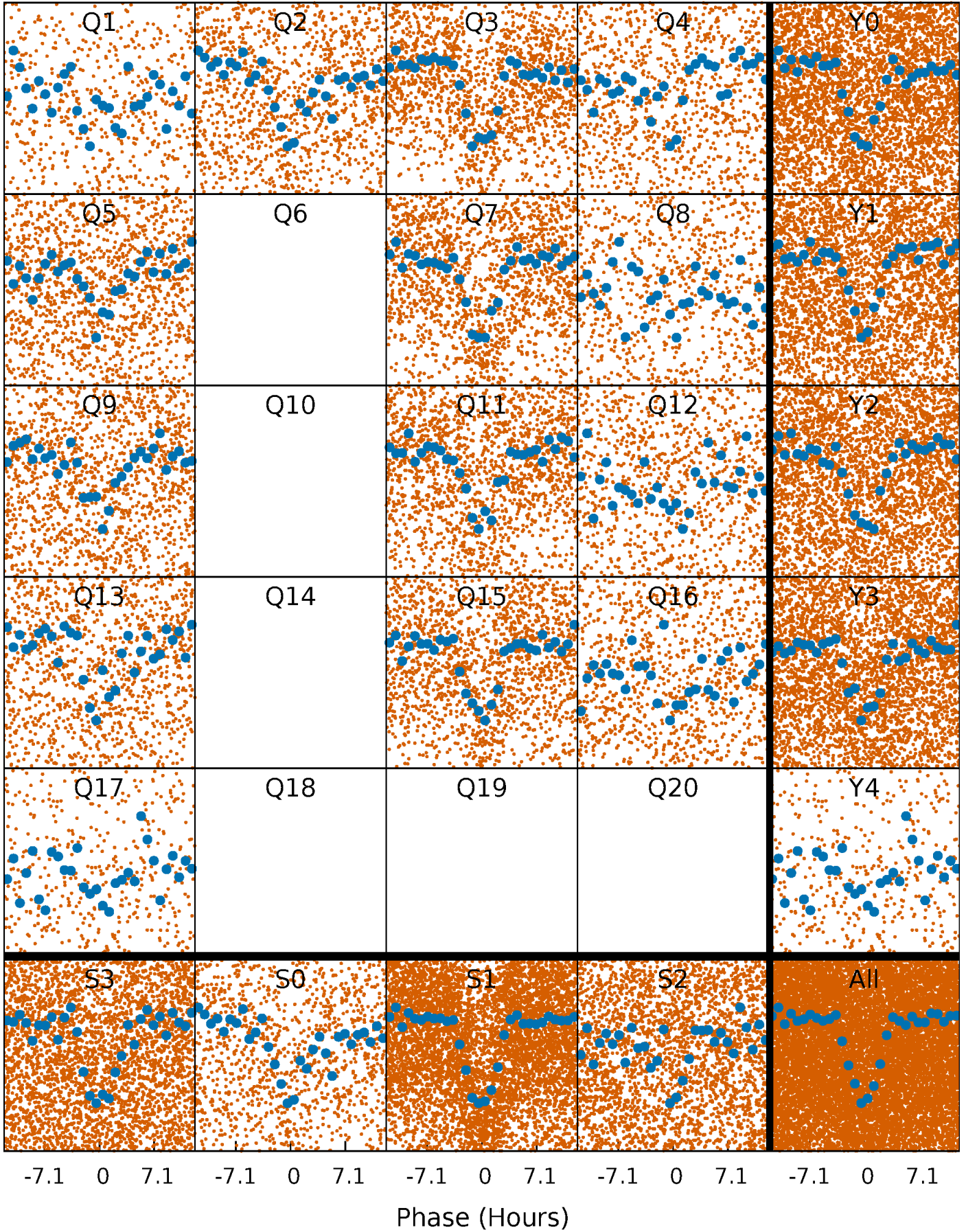


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



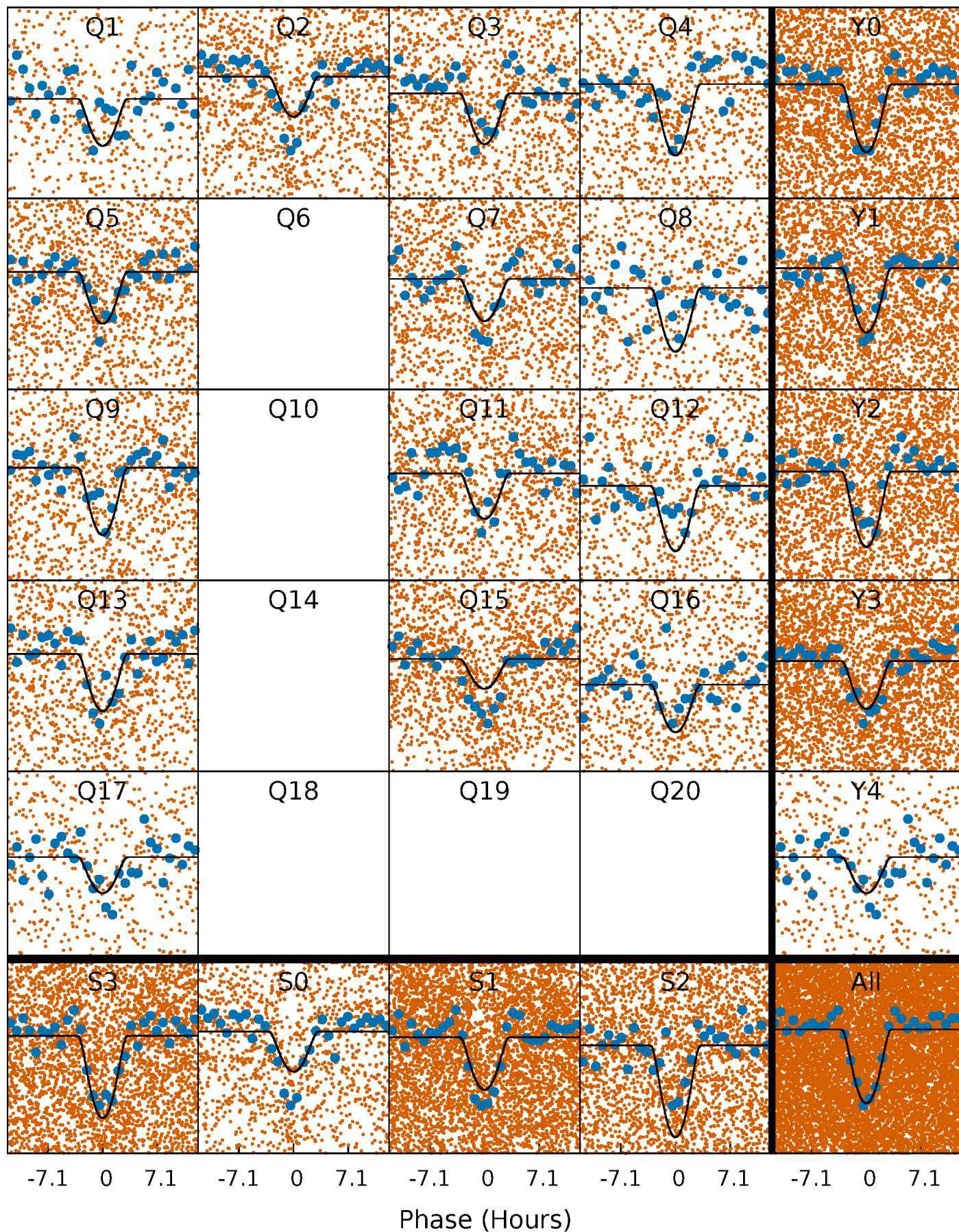
PDC Quarter-Phased Transit Curves

TCE 005629985-01 P= 2.271887 Days $T_0=132.534767$ (BKJD)



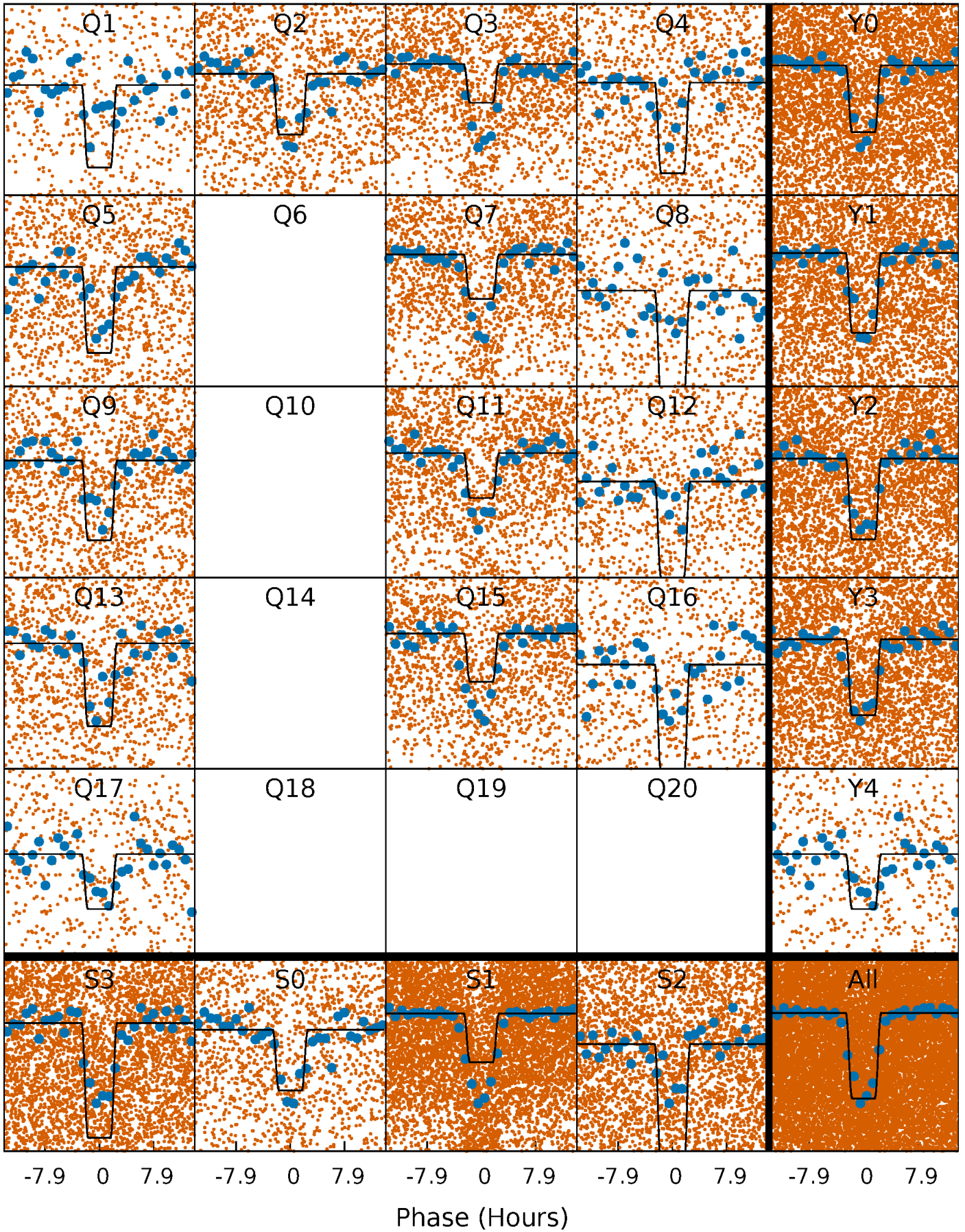
DV Quarter-Phased Transit Curves

TCE 005629985-01 P= 2.271887 Days $T_0=132.534767$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

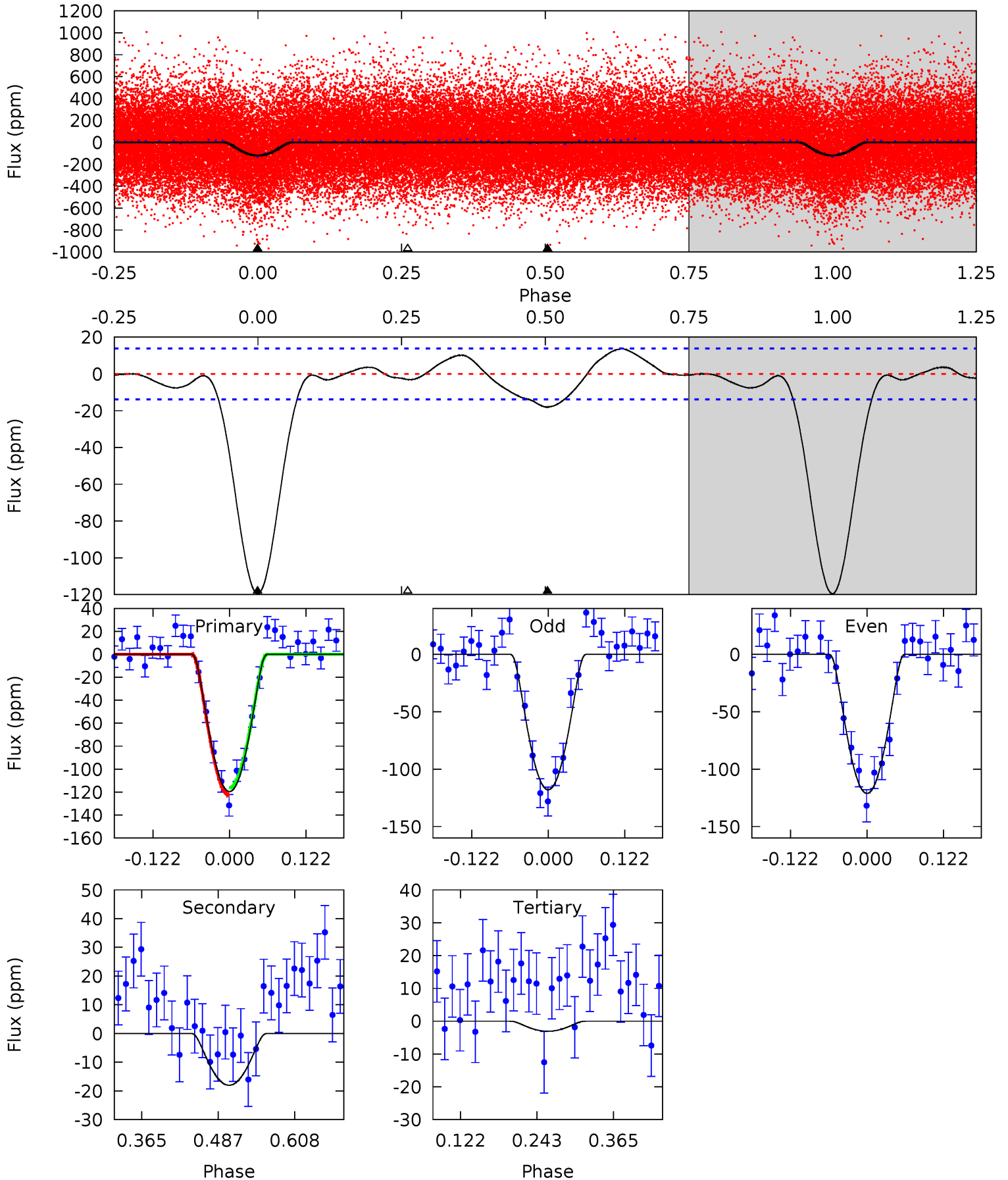
TCE 005629985-01 P= 2.271923 Days $T_0=132.522794$ (BKJD)



DV Model-Shift Uniqueness Test

005629985-01, P = 2.271887 Days, E = 130.262880 Days

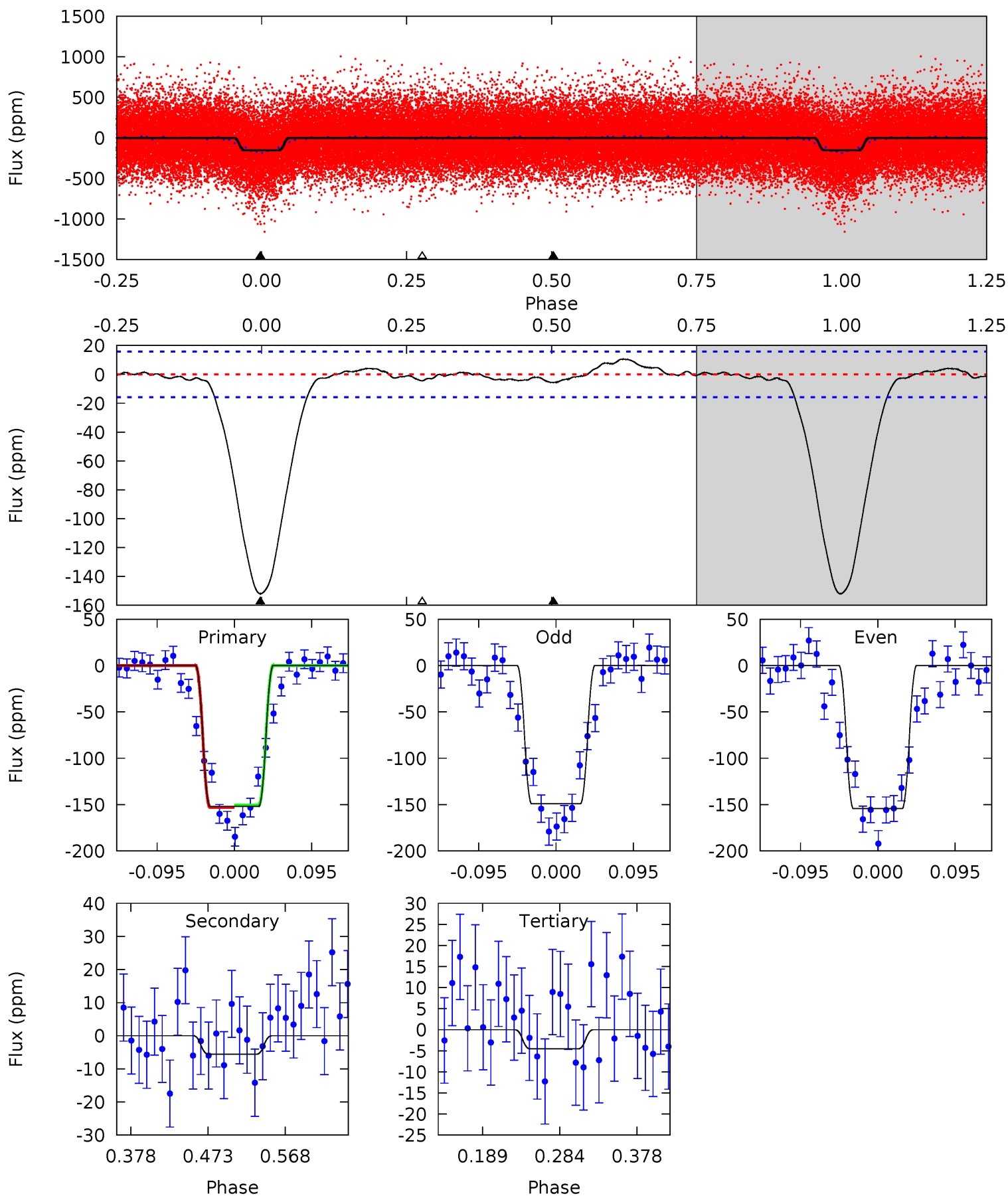
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.1	5.90	1.00	0	4.52	1.55	1.74	38.1	39.1	4.89	5.90	0.52	0.99	0.10	1.06



Alt Model-Shift Uniqueness Test

005629985-01, P = 2.271923 Days, E = 130.250871 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.0	1.62	1.31	0	4.58	1.67	1.00	42.7	44.0	0.31	1.62	0.76	1.10	0.07	0.37



Stellar Parameters For KIC 005629985

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5788^{+155}_{-155}	$4.506^{+0.072}_{-0.168}$	$-0.380^{+0.300}_{-0.300}$	$0.856^{+0.225}_{-0.096}$	$0.856^{+0.106}_{-0.077}$	$1.924^{+0.587}_{-0.886}$
	+3%/-3%	+2%/-4%	+79%/-79%	+26%/-11%	+12%/-9%	+31%/-46%
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 005629985-01 / KOI 1578.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-18 ± 3	$1.82^{+1.24}_{-1.09}$	1870^{+100}_{-89}	3257^{+1256}_{-542}	$3.048^{+16.042}_{-2.000}$
Alt.	-6 ± 3	$1.47^{+1.24}_{-0.95}$	1861^{+112}_{-83}	2846^{+1261}_{-4644}	$1.420^{+10.367}_{-1.140}$

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 $A_{obs} \gg 1.0$

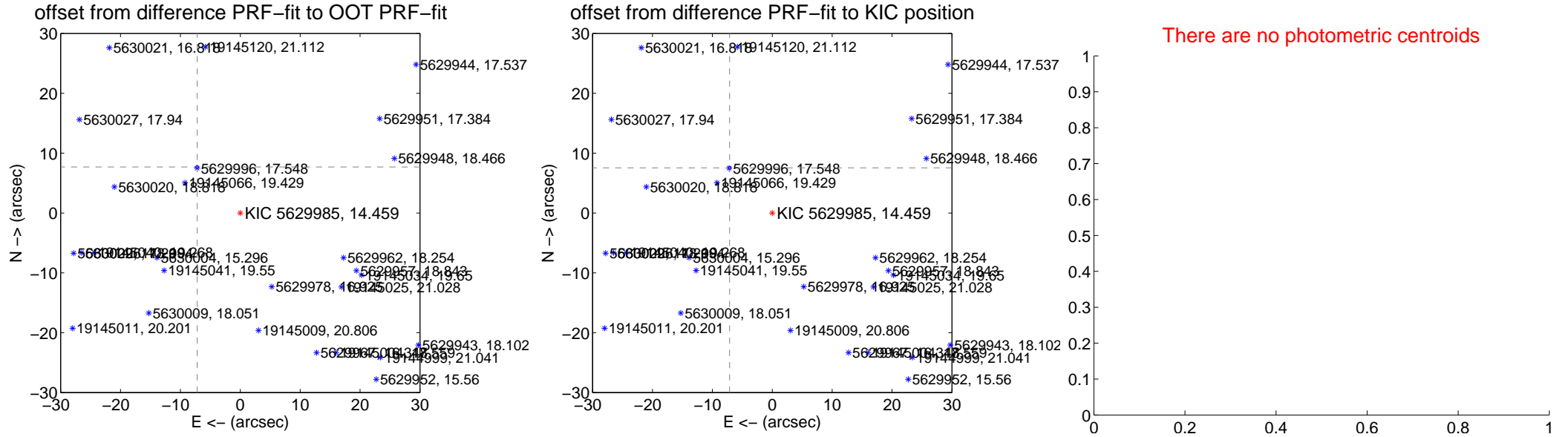
DV Centroid Data

Supplemental centroid analysis for 005629985-01. Kepler magnitude: 14.46. Transit SNR 22.83

There are 9 quarters with good PRF difference image offsets

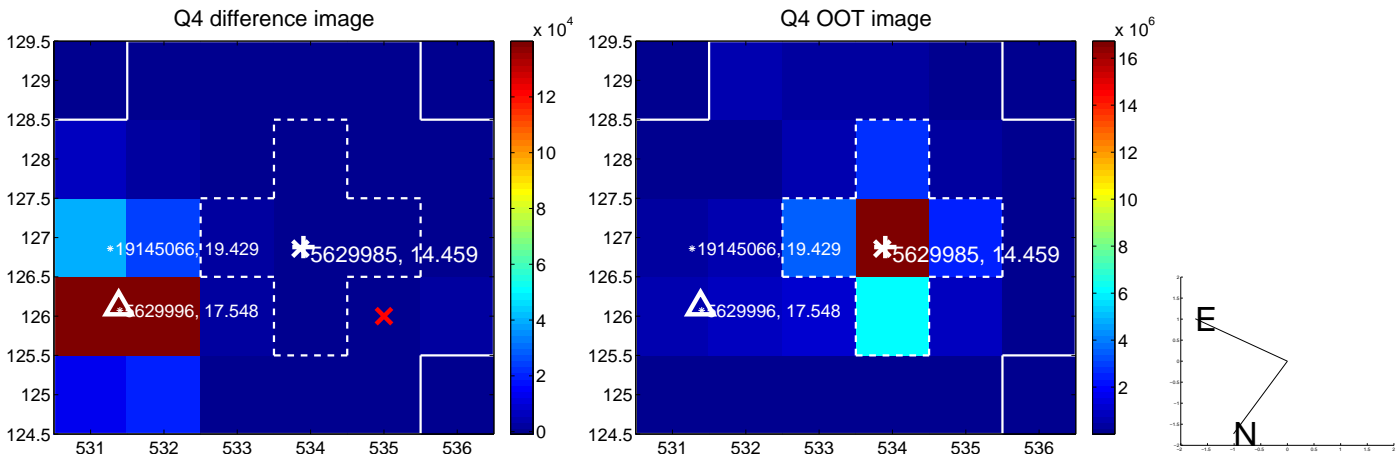
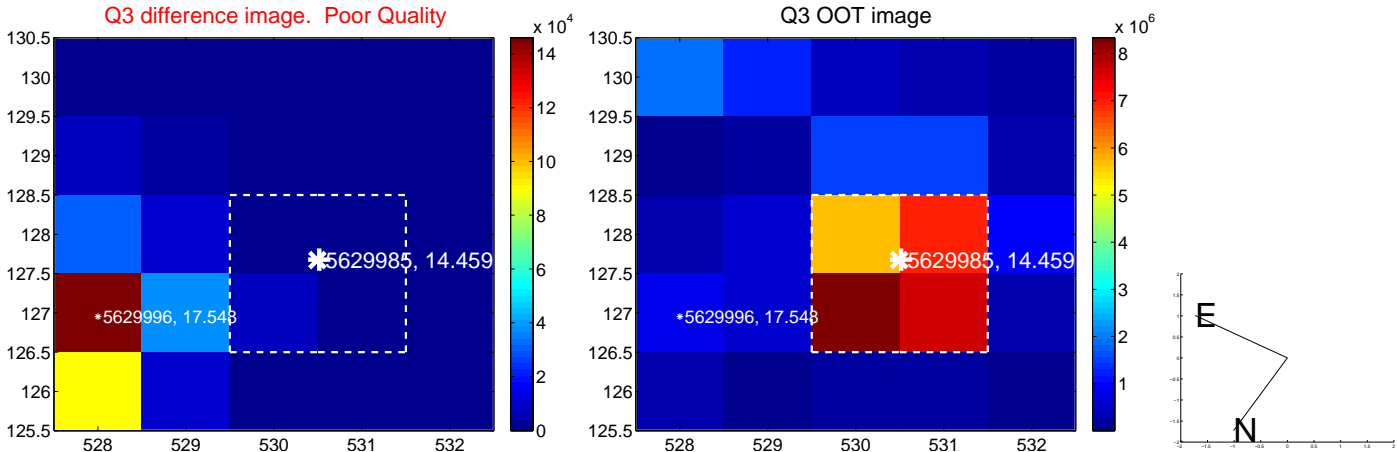
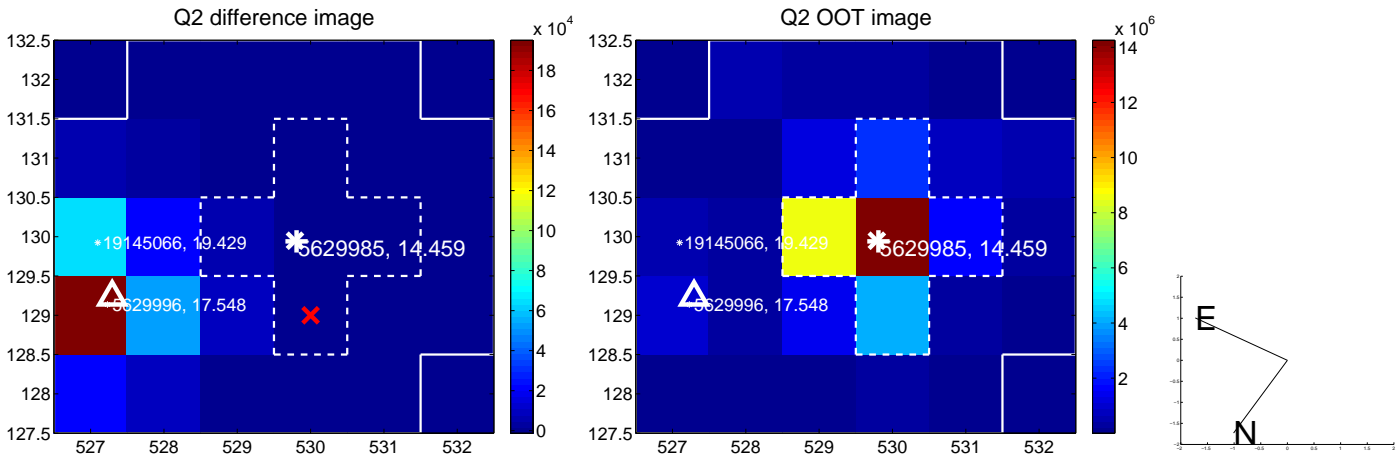
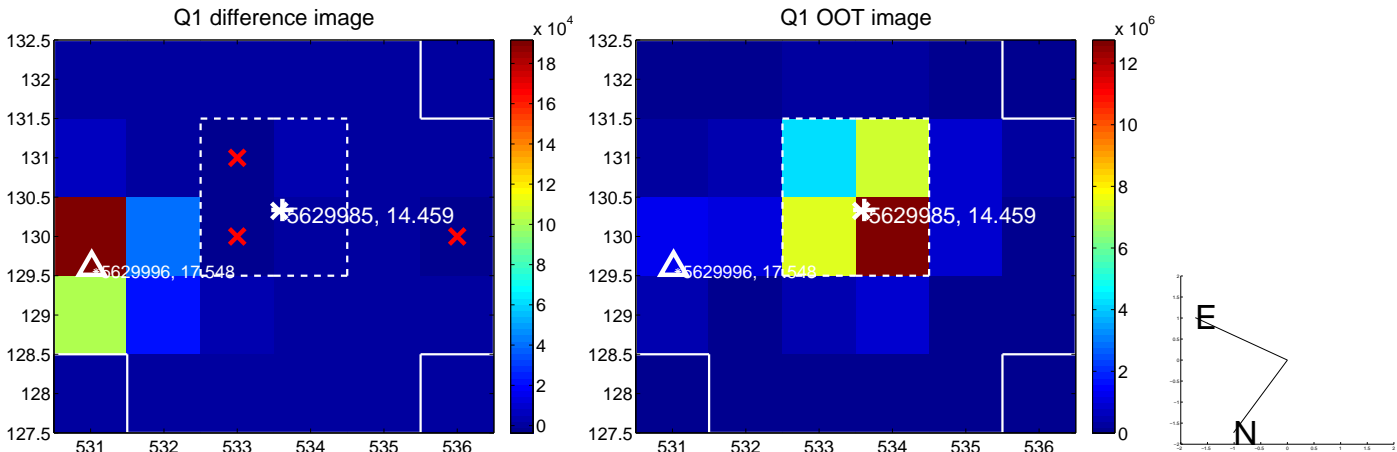
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.530 \pm 0.079	133.06	7.191 \pm 0.079	7.692 \pm 0.072
PRF-fit source offset from KIC position	10.370 \pm 0.078	132.57	7.116 \pm 0.078	7.544 \pm 0.070
photometric centroid source offset	—	—	—	—

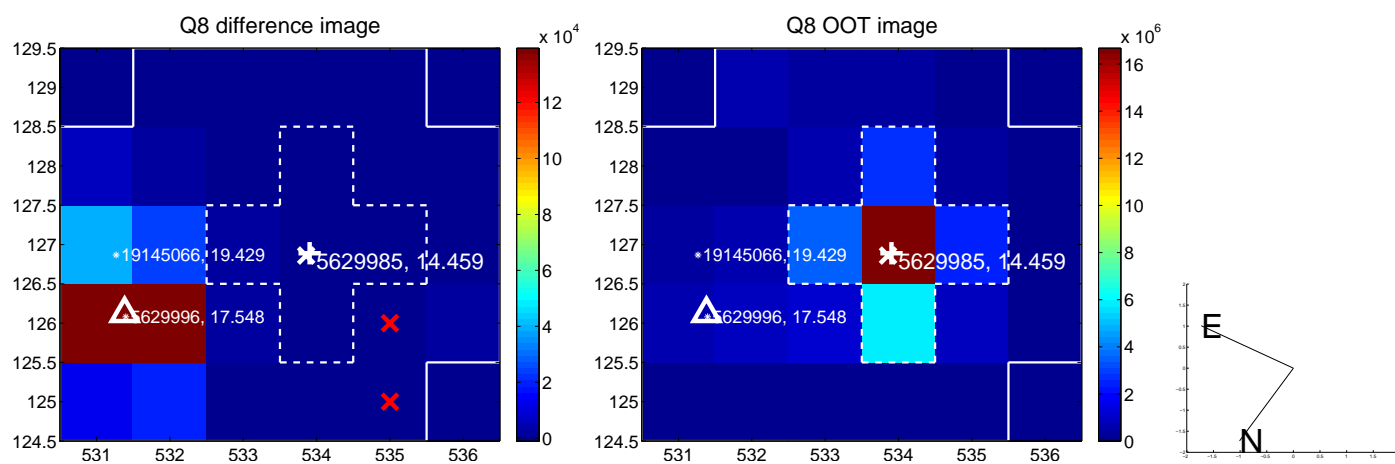
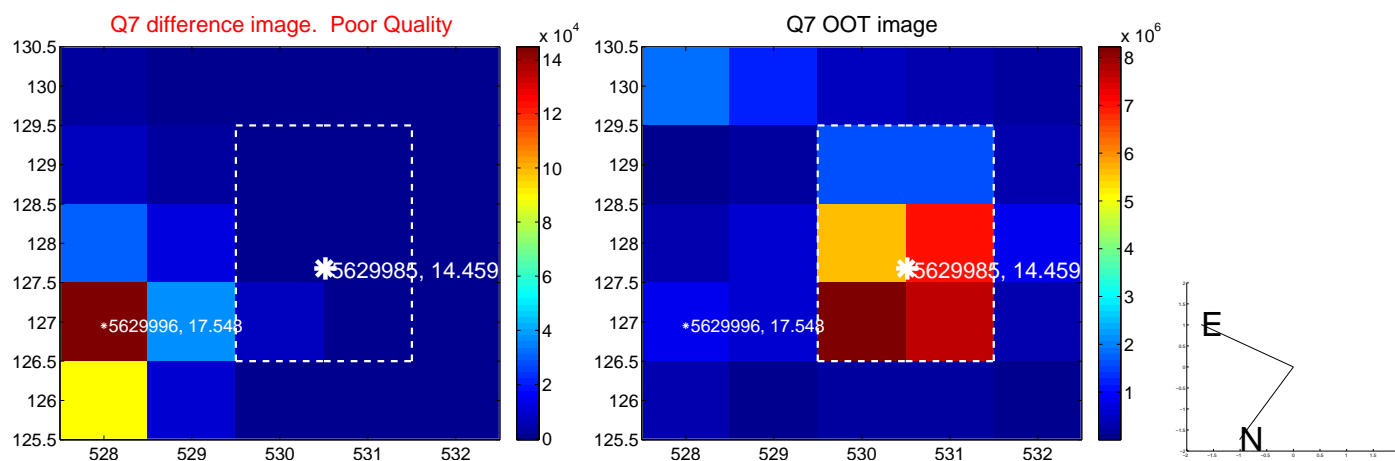
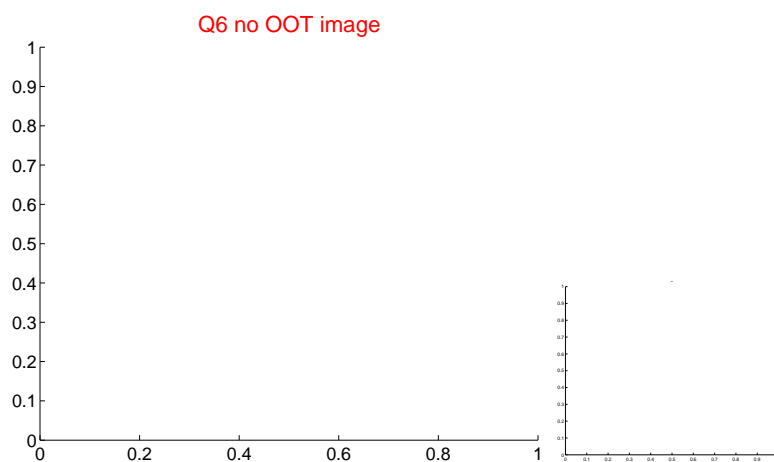
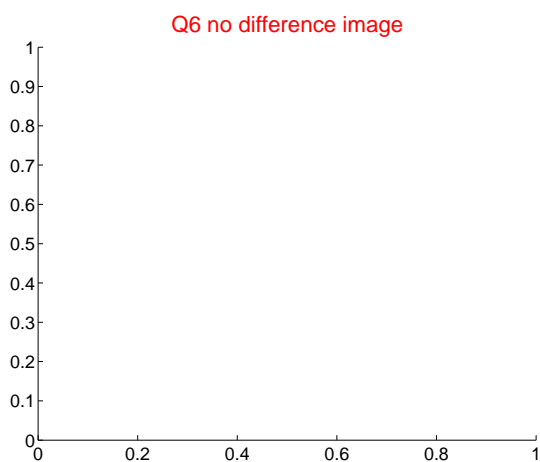
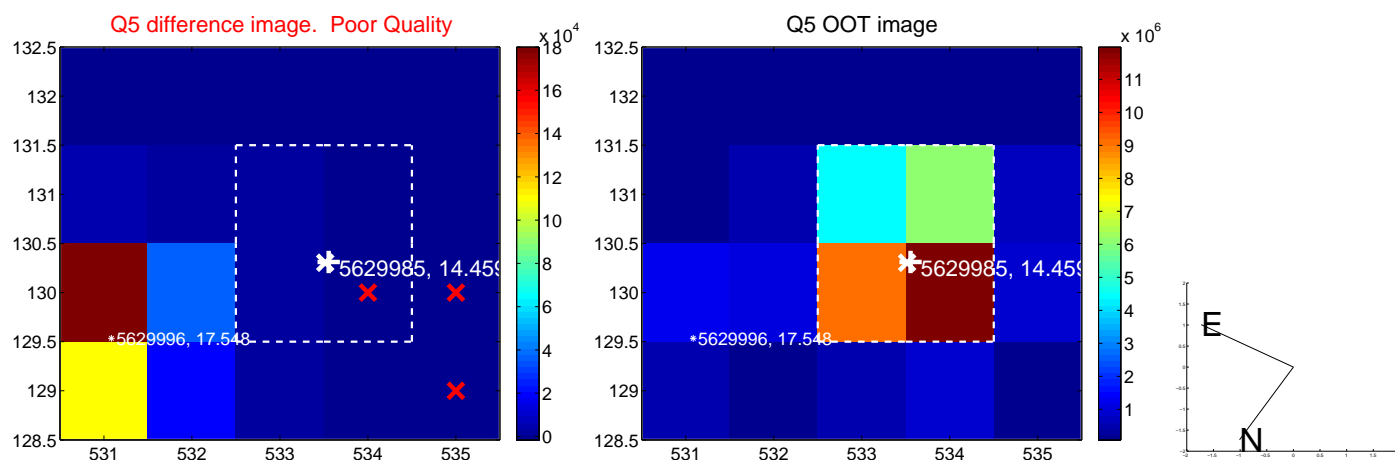


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

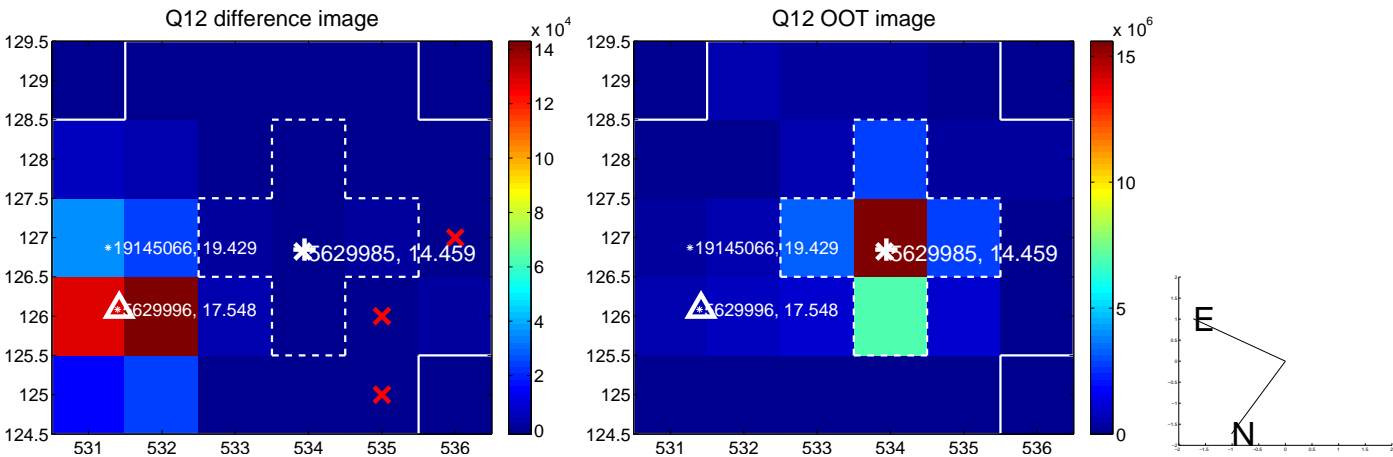
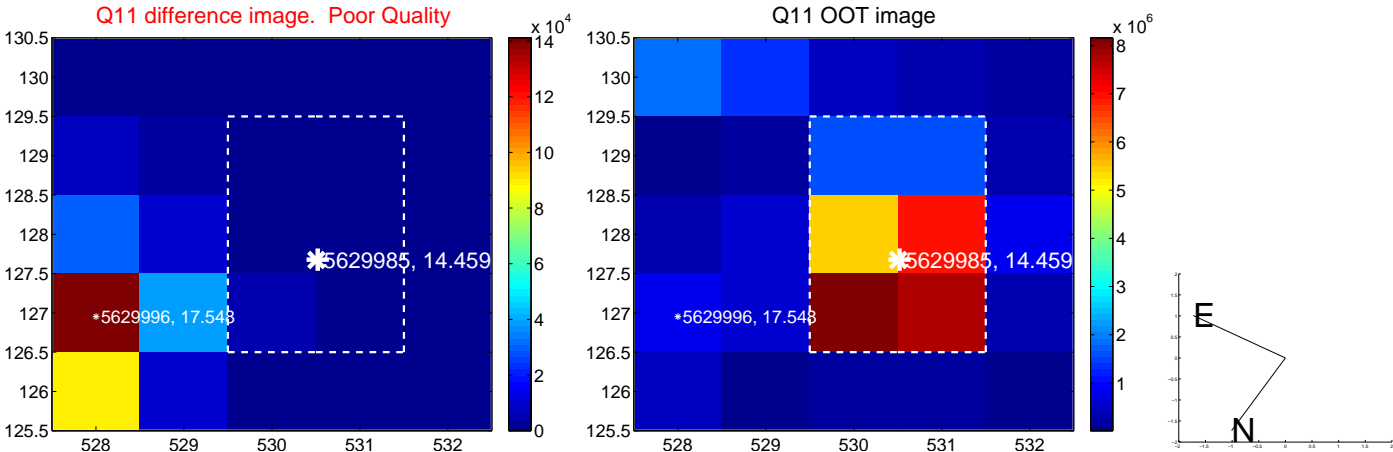
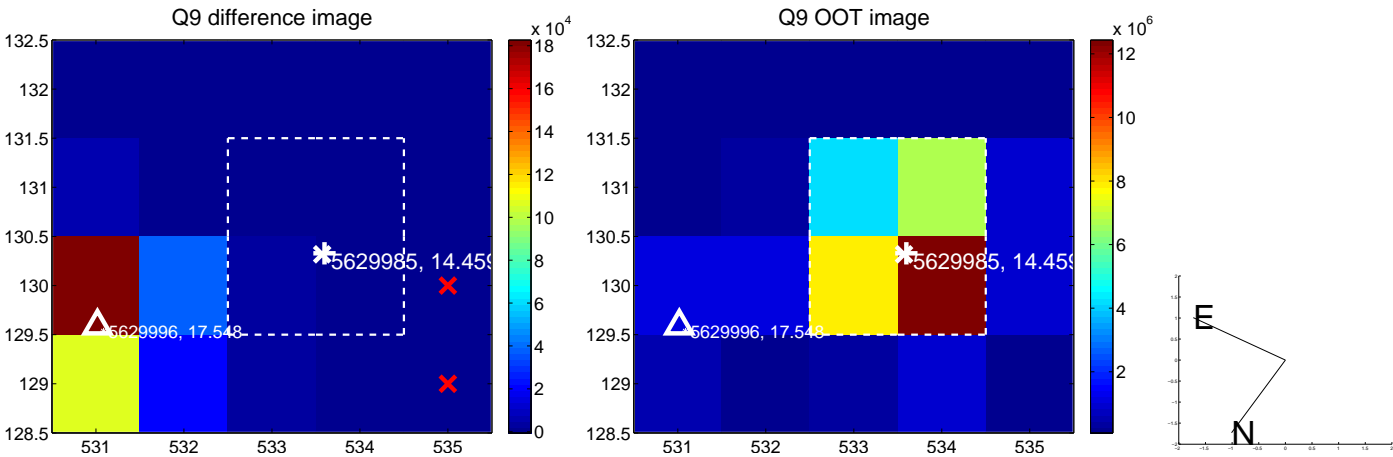
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



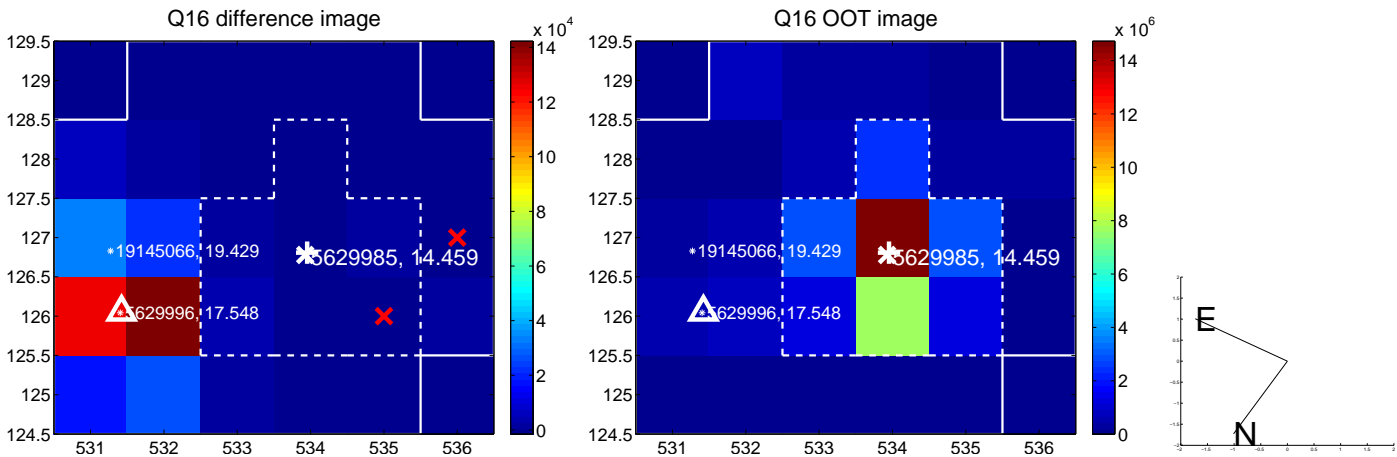
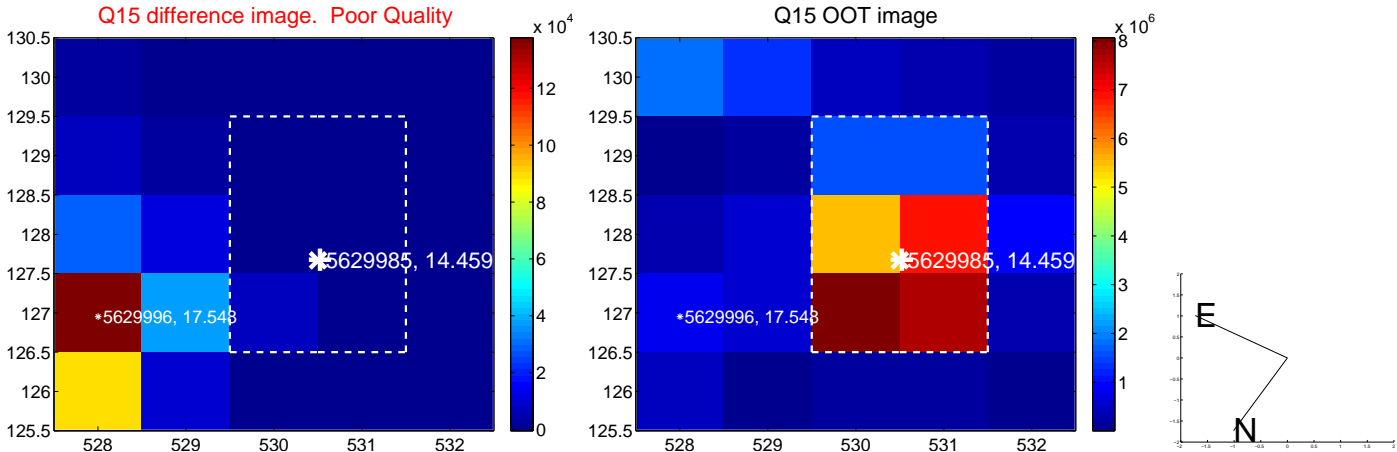
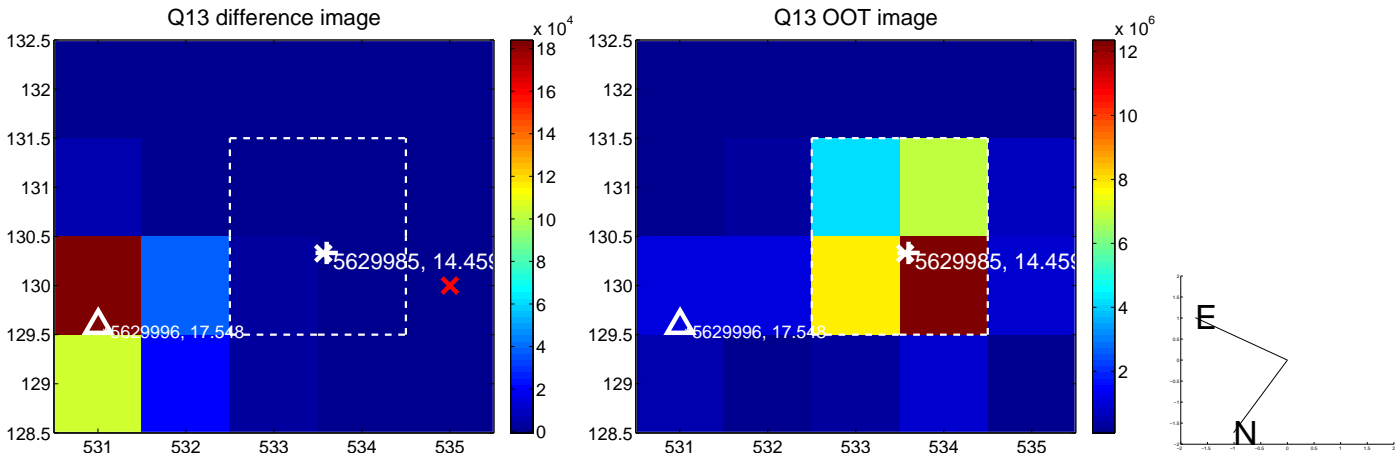
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



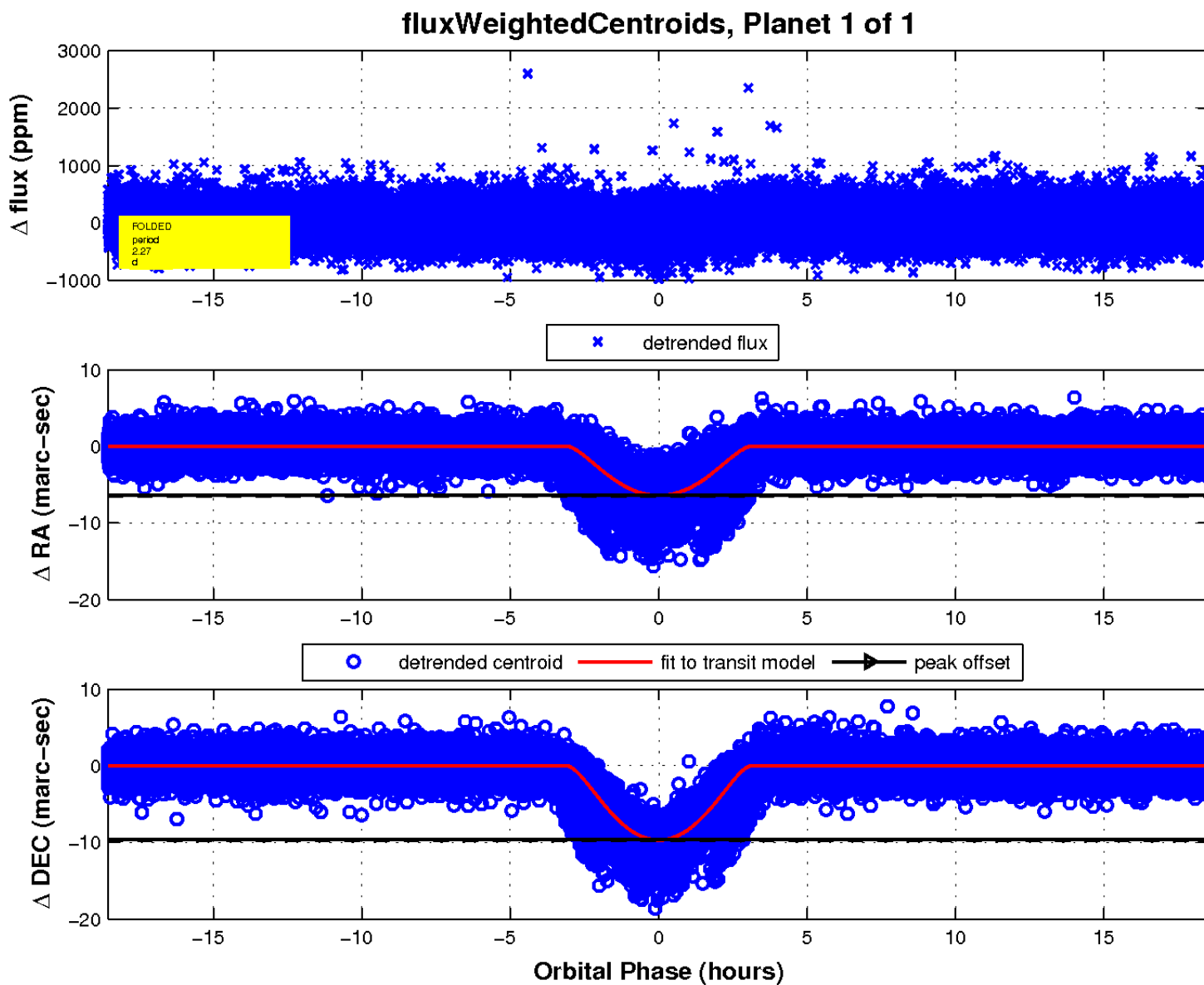
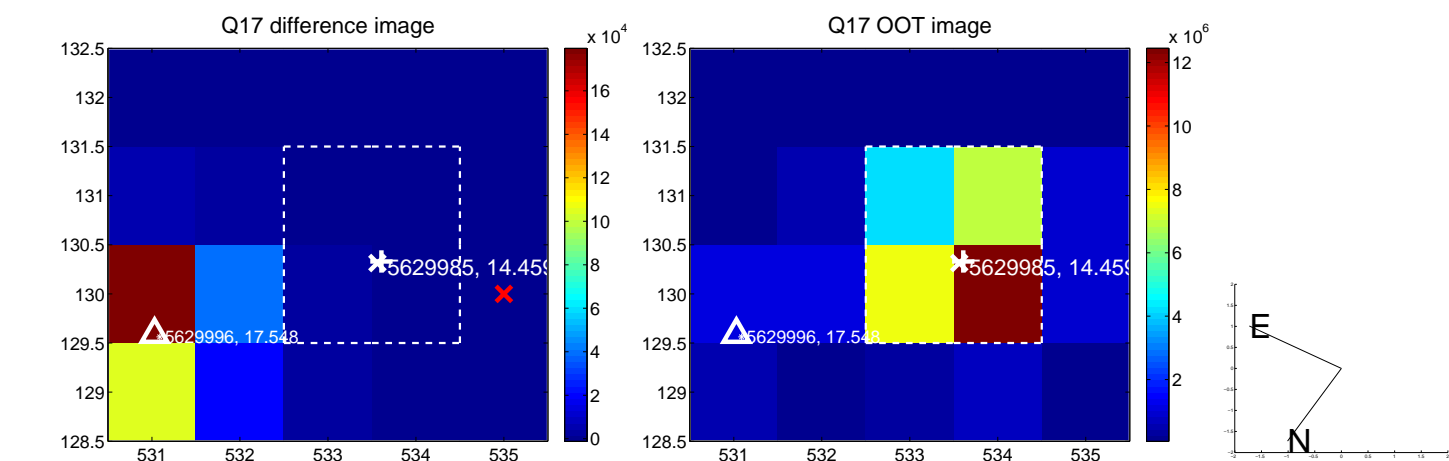
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UKIRT Image

Declination

