

KIC 009282687

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|--------|------|-----------------------------|-----------------|------------------------|------------------------|
| 009282687-01 | OBS | 6196.01 | 1.680648 | 132.144527 | 42032.4 | 3.000 | 2203.1 | -1.0 | 1.63 | 6844 | 33.81 | 5573.30 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 009282687-01 | OBS | FP | 0.00 | 0 | 1 | 0 | 0 | SWEET_EB—MOD_SEC_ALT—MOD_ODDEVEN_ALT—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.

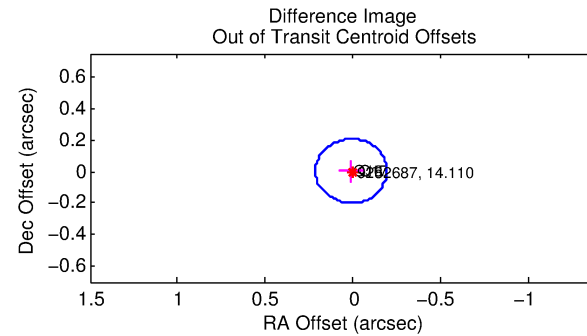
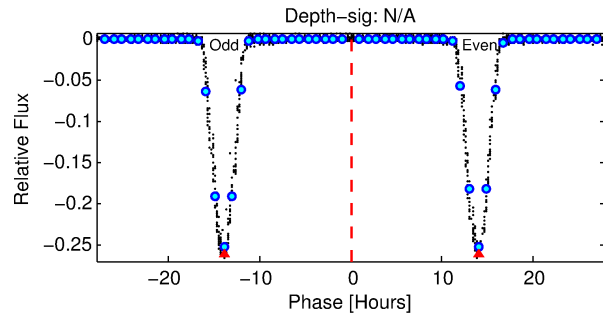
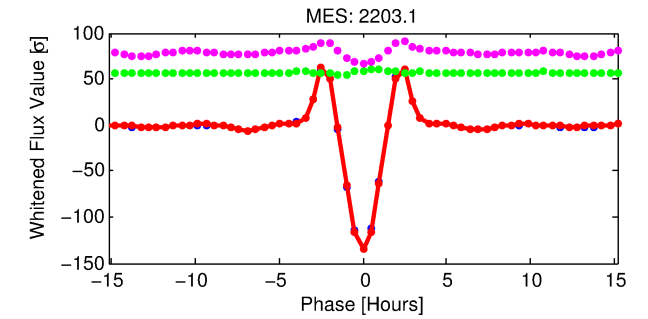
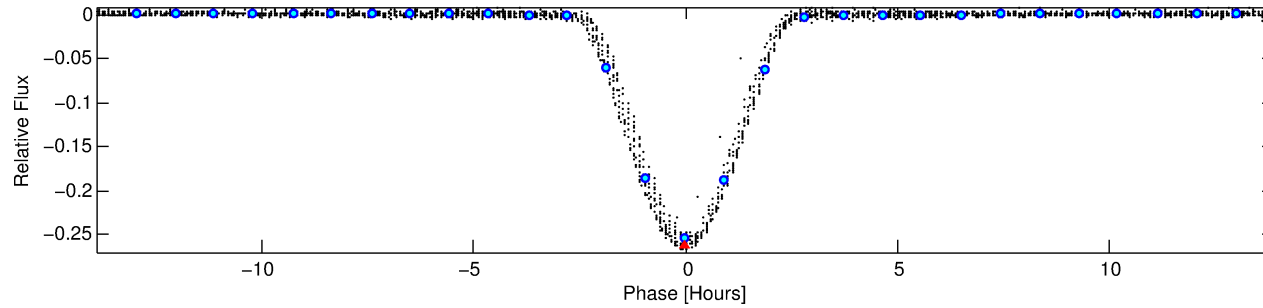
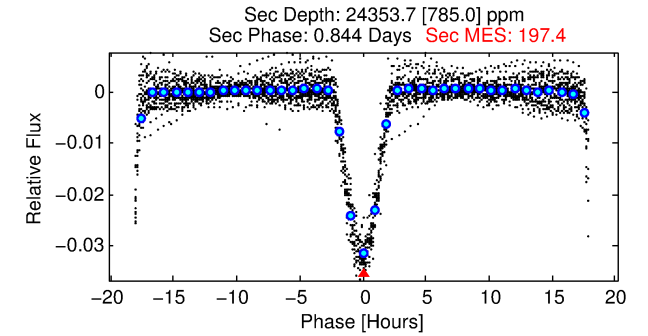
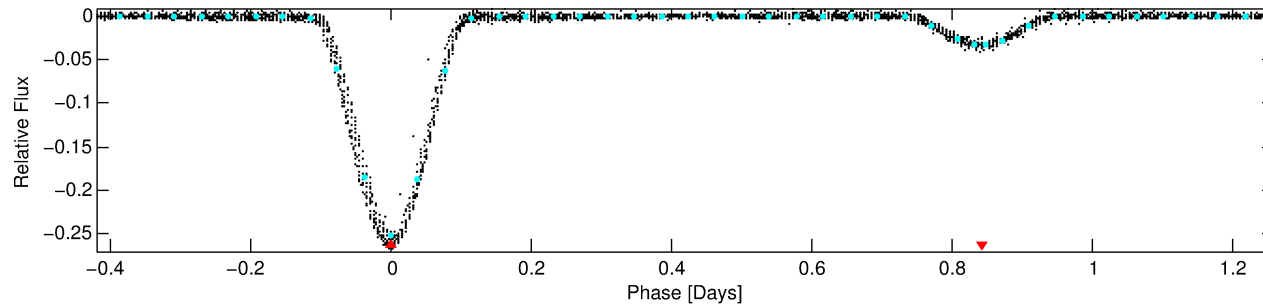
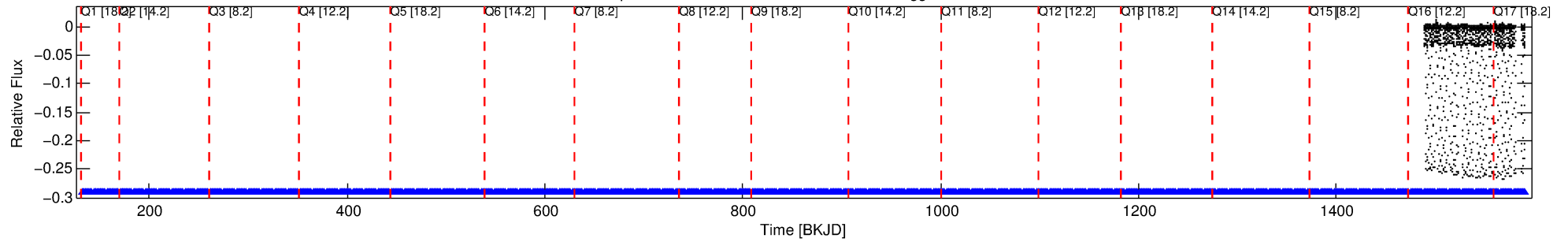
Ephemeris Match Information For 009282687-01

No Significant Match Found

DV One-Page Summary

KIC: 9282687 Candidate: 1 of 1 Period: 1.681 d
KOI: K06196 Corr: No Ephemeris Match

Kp: 14.11 R*: 1.63 Rs Teff: 6844.0 K Logg: 4.14 Fe/H: -0.180



TPS TCE Results:

Period = 1.68065 d
Epoch = 132.1445 BKJD

DV fit results are unavailable

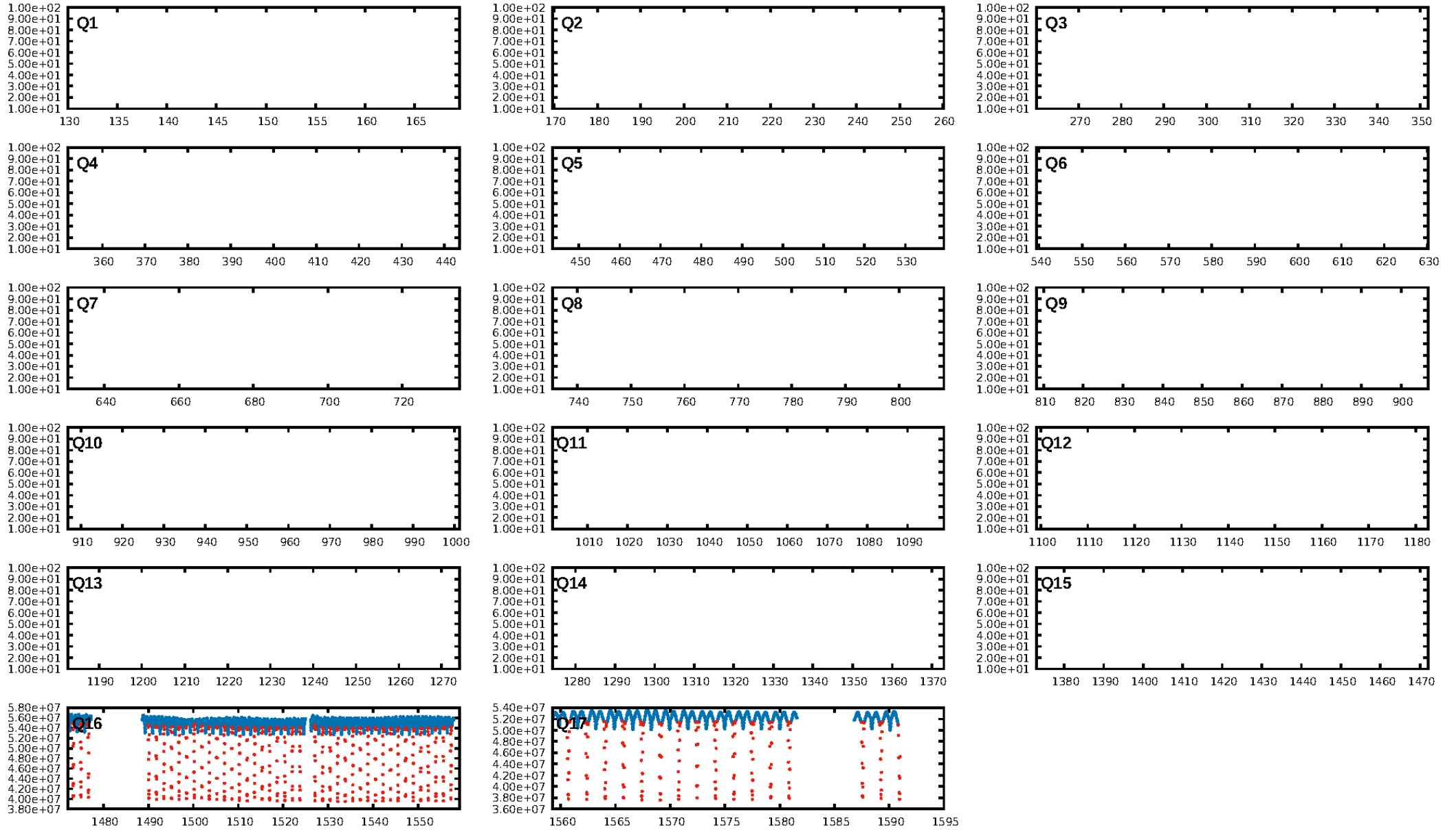
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [40/40]
GhostDiagnostic-chr: 0.9096
Centroid-sig: N/A
Centroid-so: 0.234 arcsec [201.32σ]
OotOffset-rm: 0.012 arcsec [0.18σ]
KicOffset-rm: 0.085 arcsec [1.23σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

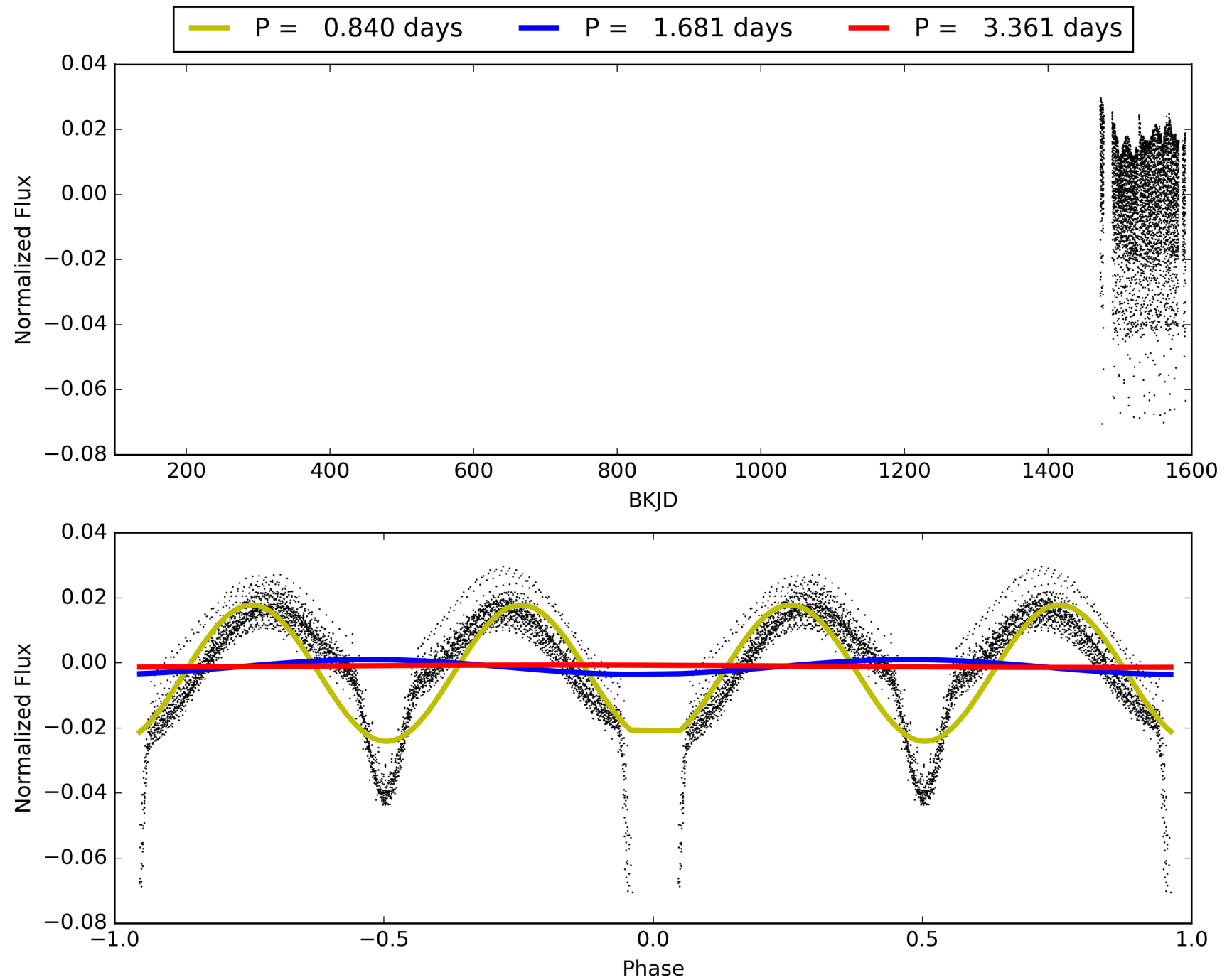
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:21:38 Z

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

TCE 009282687-01, PDC Light Curves

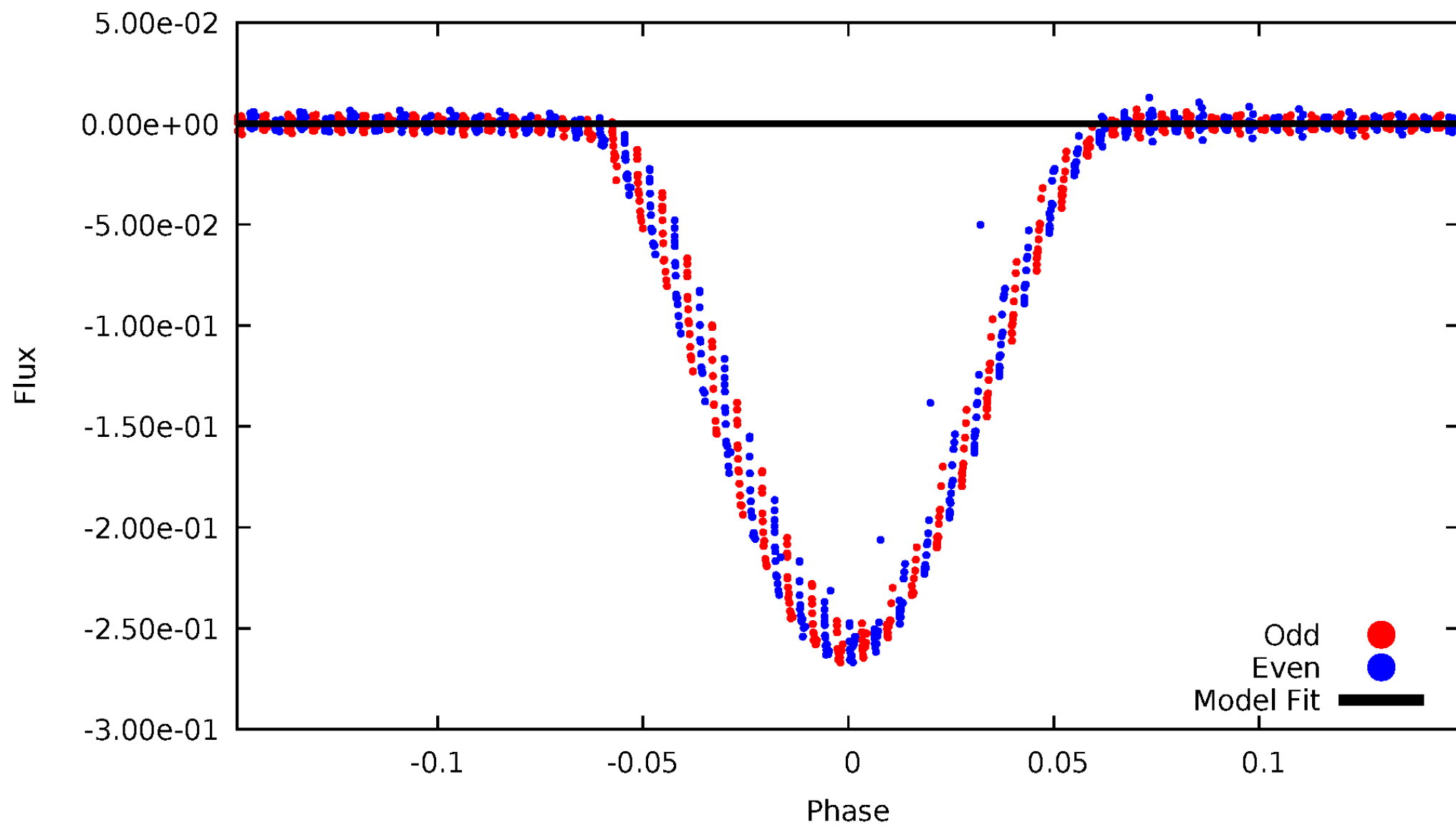


TCE 009282687-01



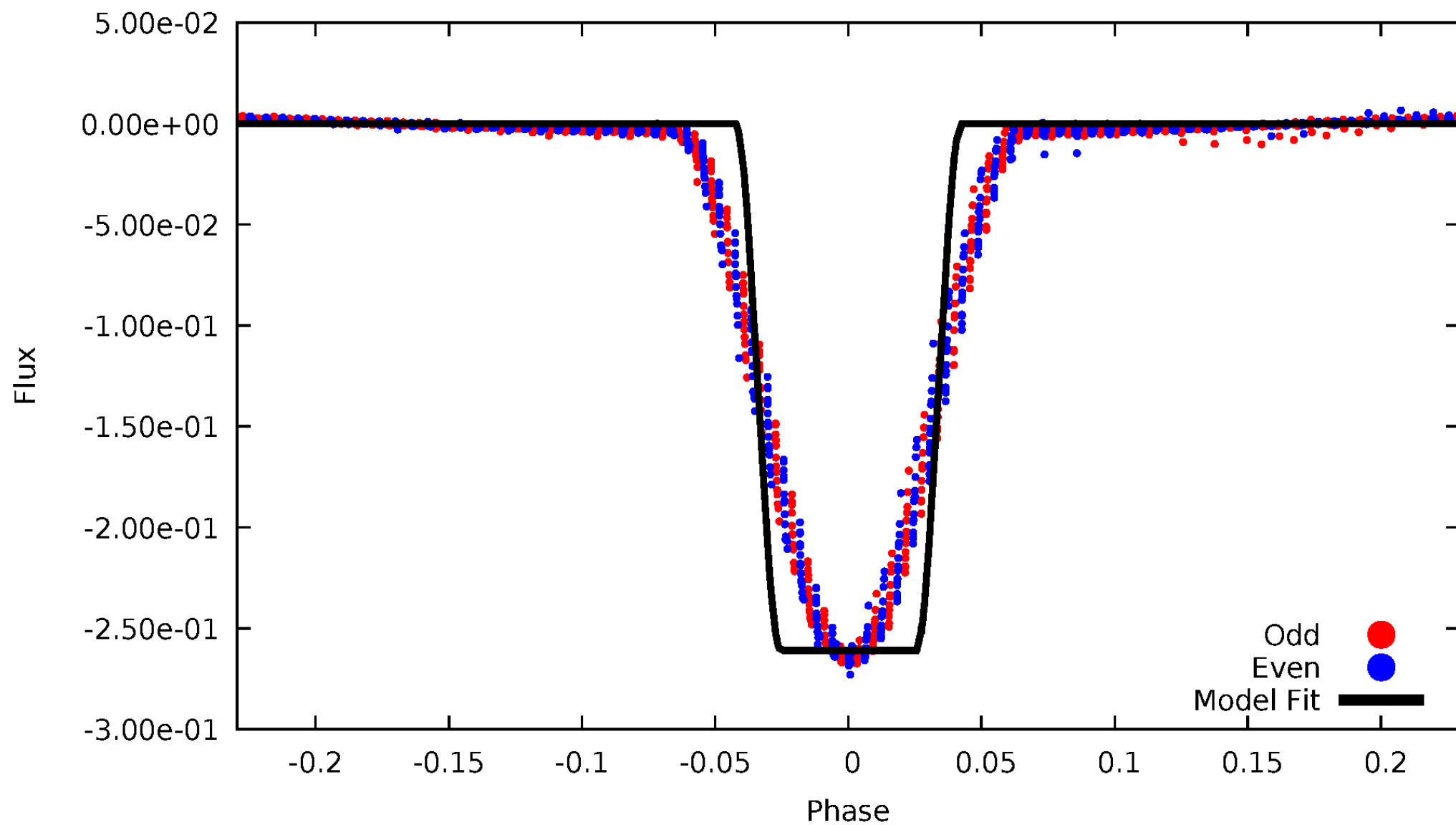
DV Odd/Even

TCE 009282687-01



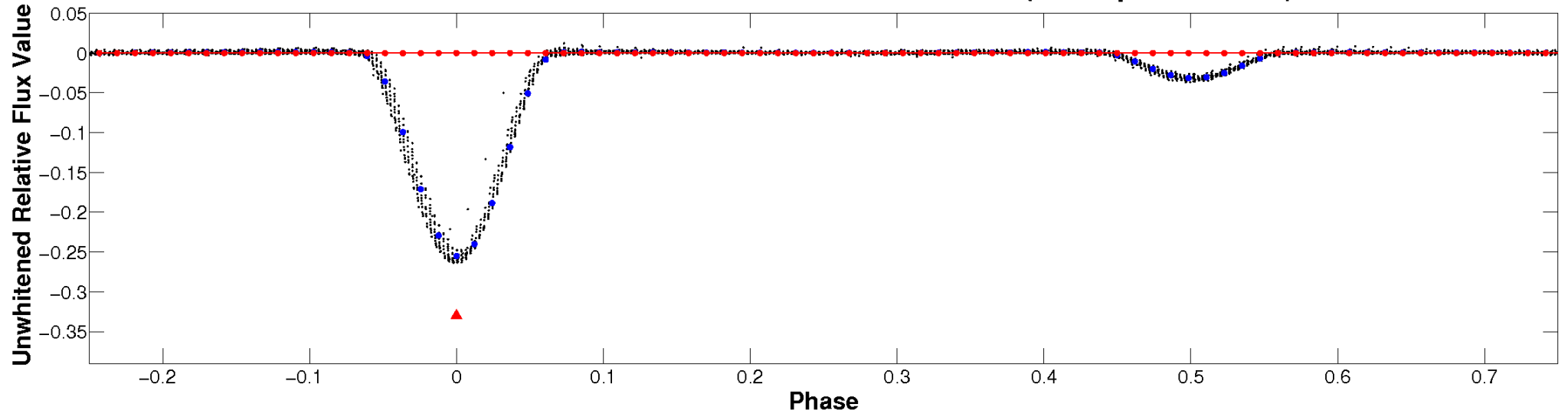
ALT Odd/Even

TCE 009282687-01



Non-Whitened Vs. Whitened Light Curve

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

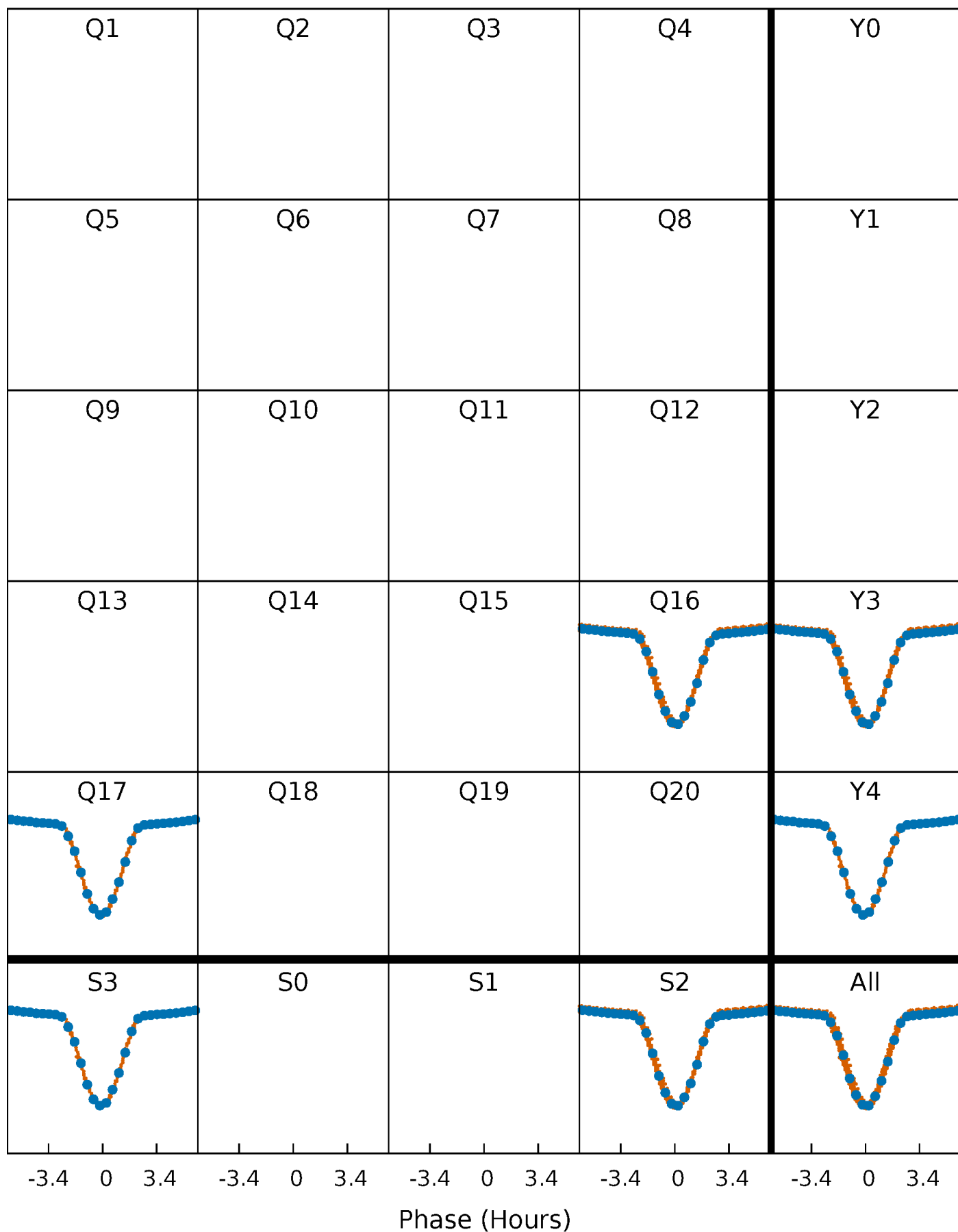


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



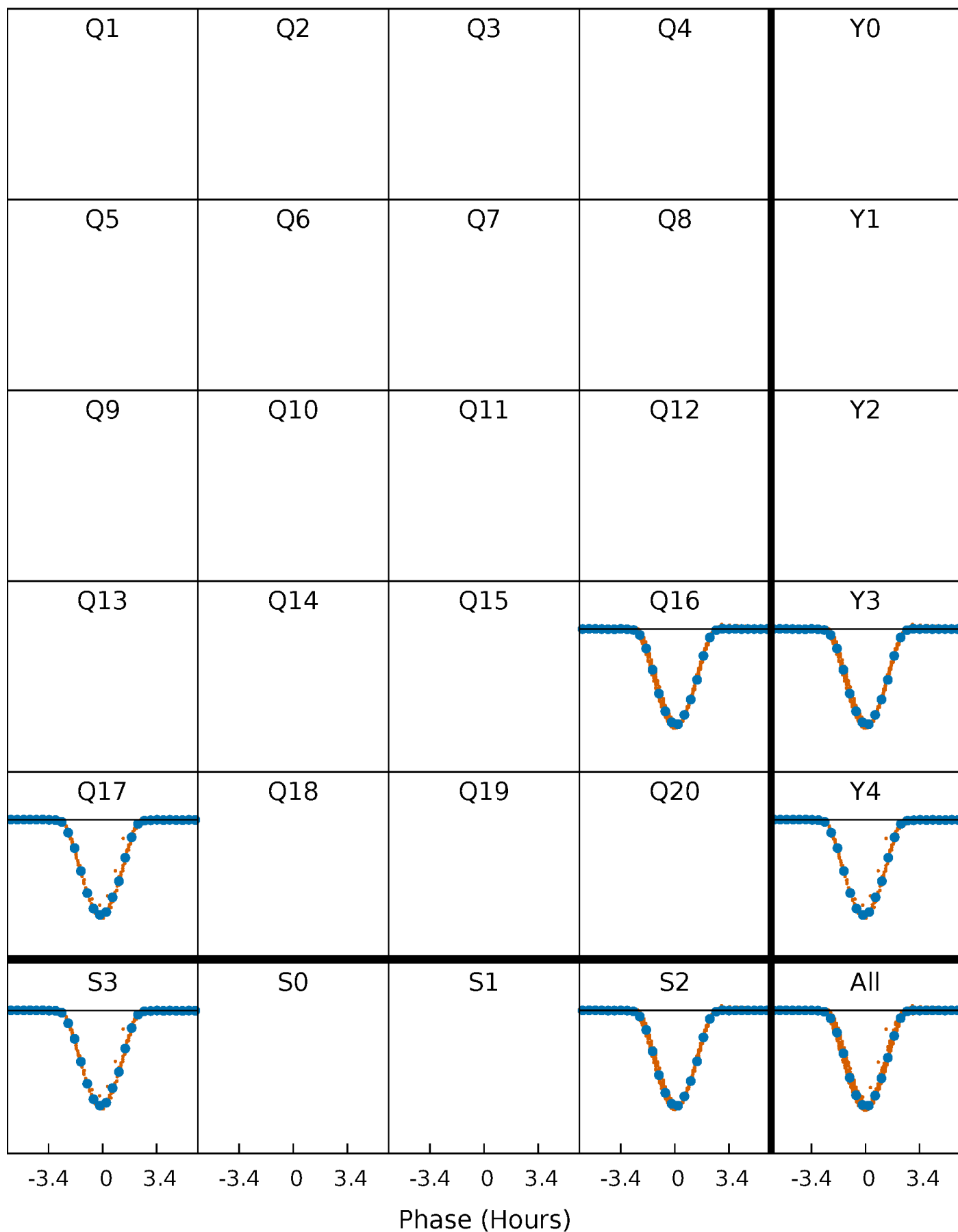
PDC Quarter-Phased Transit Curves

TCE 009282687-01 P= 1.680648 Days $T_0=132.144527$ (BKJD)



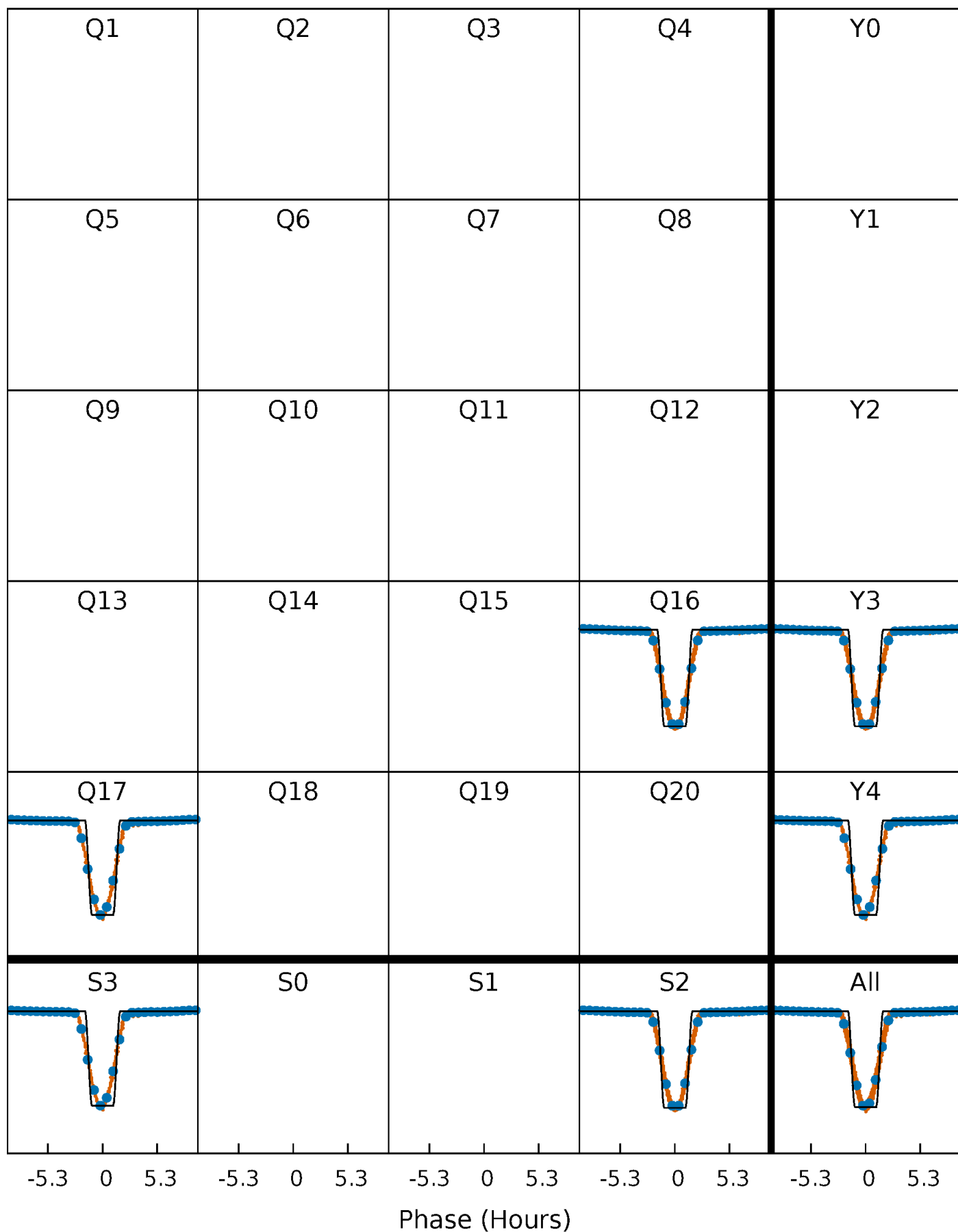
DV Quarter-Phased Transit Curves

TCE 009282687-01 P= 1.680648 Days $T_0=132.144527$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

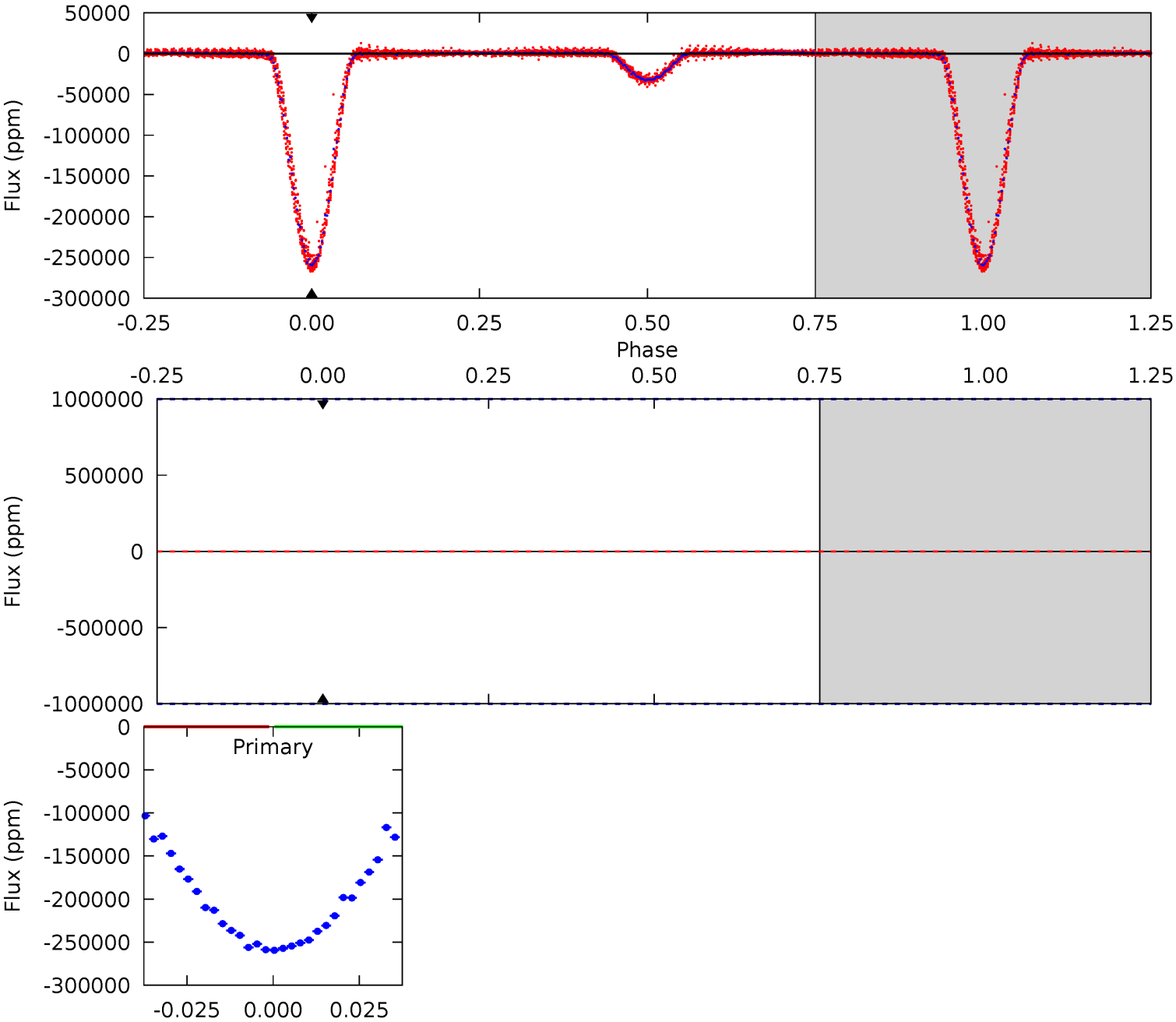
TCE 009282687-01 P= 1.680648 Days $T_0=132.144915$ (BKJD)



DV Model-Shift Uniqueness Test

009282687-01, P = 1.680648 Days, E = 132.144527 Days

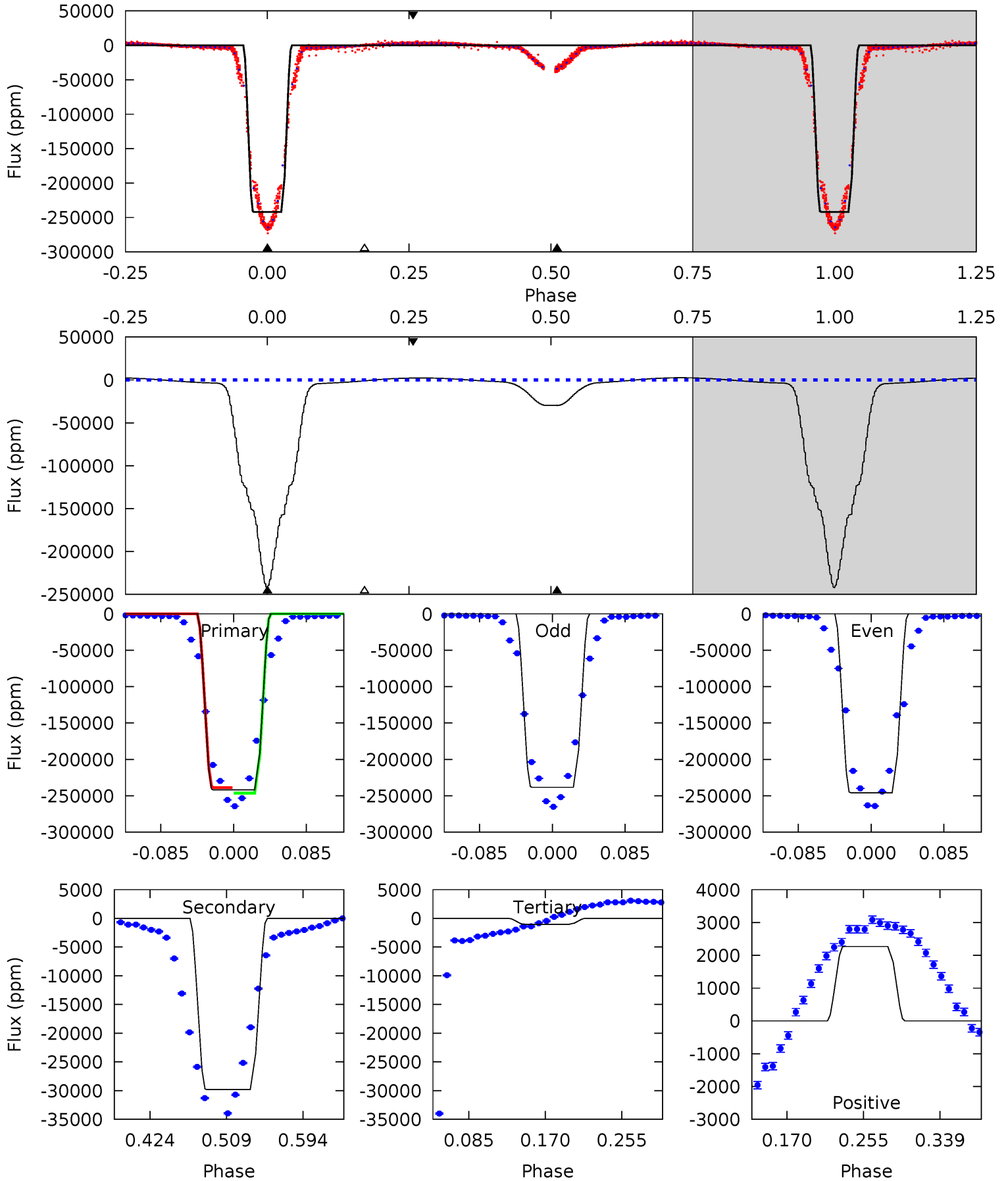
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-----|-----|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-----|-------|-----|
| 0 | 0 | 0 | 0 | 1.00 | 1.00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



Alt Model-Shift Uniqueness Test

009282687-01, P = 1.680648 Days, E = 132.144915 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|-------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 1692 | 208.6 | 7.22 | 15.9 | 4.60 | 1.72 | 14.4 | 1685 | 1676 | 201.3 | 192.7 | 25.9 | 1.00 | 0.01 | 26.2 |



Stellar Parameters For KIC 009282687

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6844^{+190}_{-286} | $4.145^{+0.175}_{-0.175}$ | $-0.180^{+0.250}_{-0.300}$ | $1.629^{+0.494}_{-0.404}$ | $1.358^{+0.202}_{-0.247}$ | $0.443^{+0.429}_{-0.215}$ |
| | +3%/-4% | +4%/-4% | +139%/-167% | +30%/-25% | +15%/-18% | +97%/-49% |
| 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 009282687-01 / KOI 6196.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|------------------|---------------------------|----------------------|-------------------------|-----------------------------|
| DV | 0 ± 1000000 | $34.78^{+17.90}_{-16.81}$ | 3052^{+234}_{-218} | 4098^{+6539}_{-13188} | $1.851^{+64.009}_{-45.820}$ |
| Alt. | -29819 ± 143 | $89.98^{+22.15}_{-22.15}$ | 3065^{+264}_{-231} | 4114^{+410}_{-333} | $1.952^{+1.343}_{-0.714}$ |

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 $A_{obs} \gg 1.0$

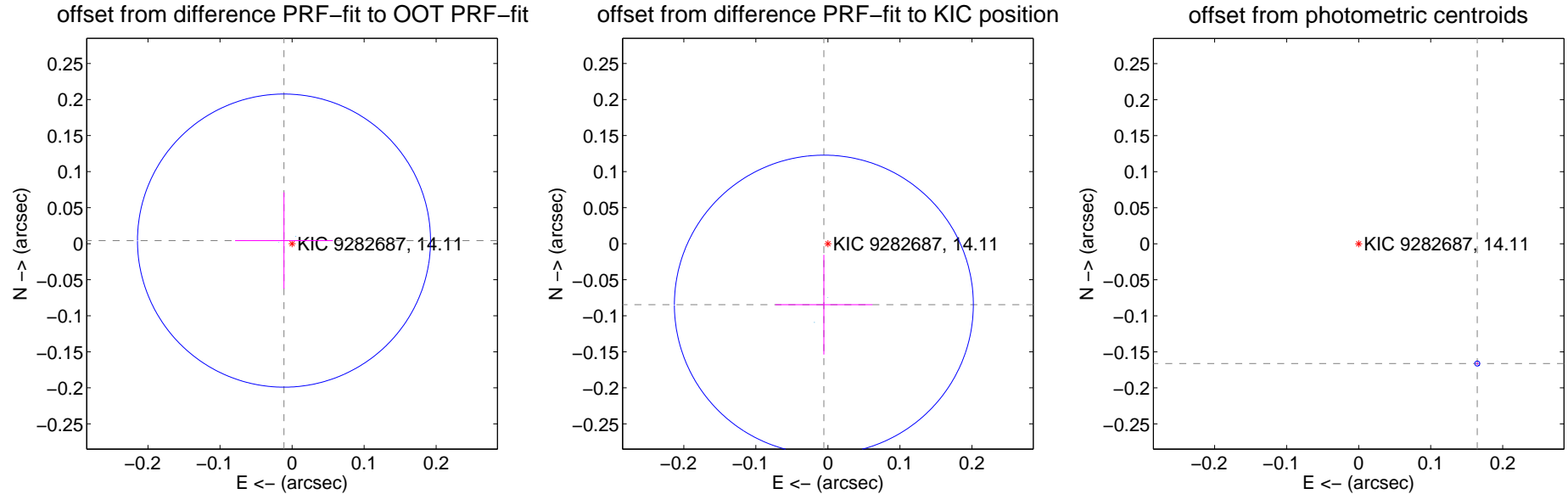
DV Centroid Data

Supplemental centroid analysis for 009282687-01. Kepler magnitude: 14.11. Transit SNR -1.00

There are 2 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 | 0.012 ± 0.068 | 0.18 | 0.011 ± 0.068 | 0.004 ± 0.067 |
| PRF-fit source offset from KIC position | 0.085 ± 0.069 | 1.23 | 0.006 ± 0.067 | -0.085 ± 0.069 |
| photometric centroid source offset | 0.23 ± 0.00 | 201.32 | -0.16 ± 0.00 | -0.17 ± 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.



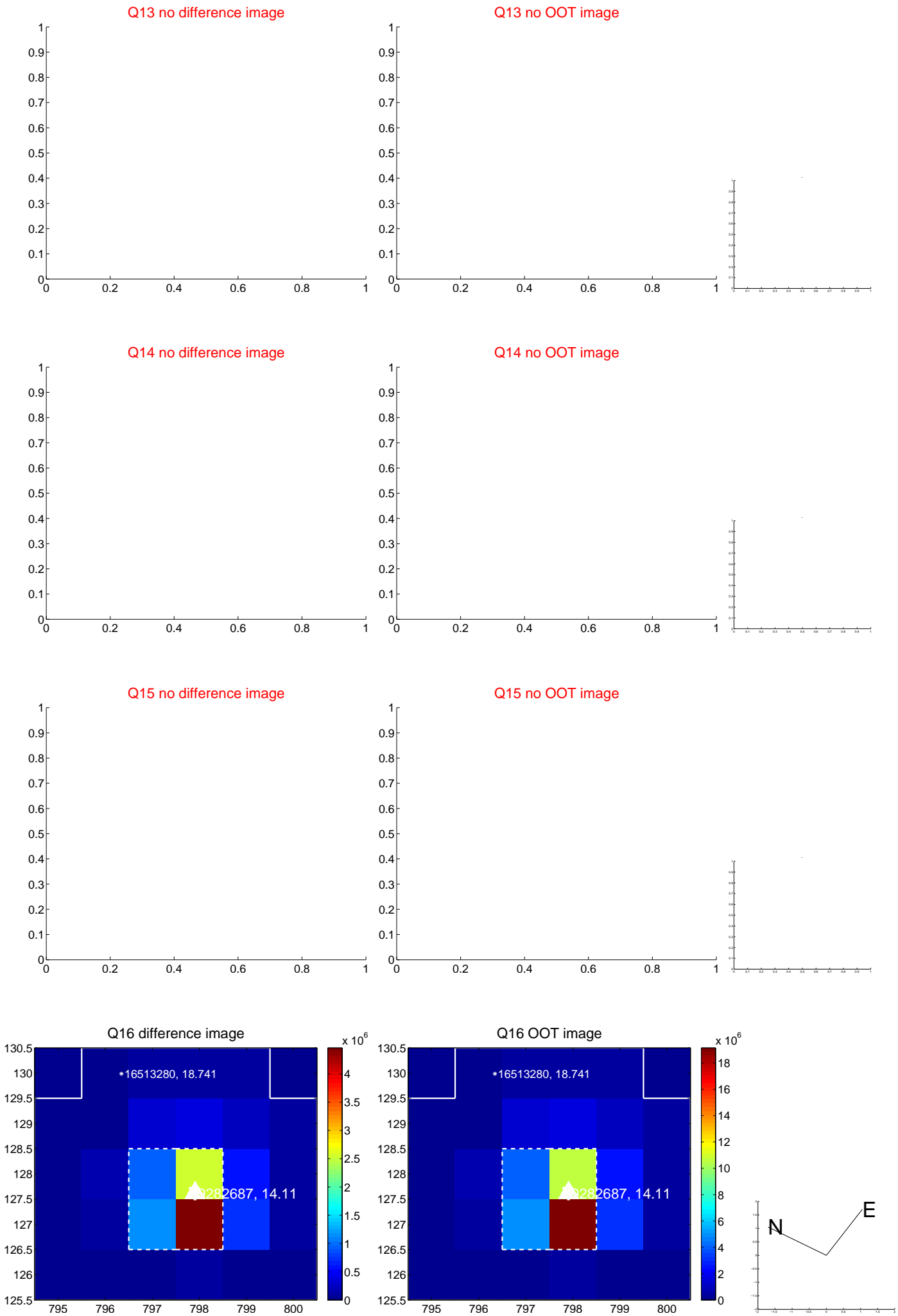
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



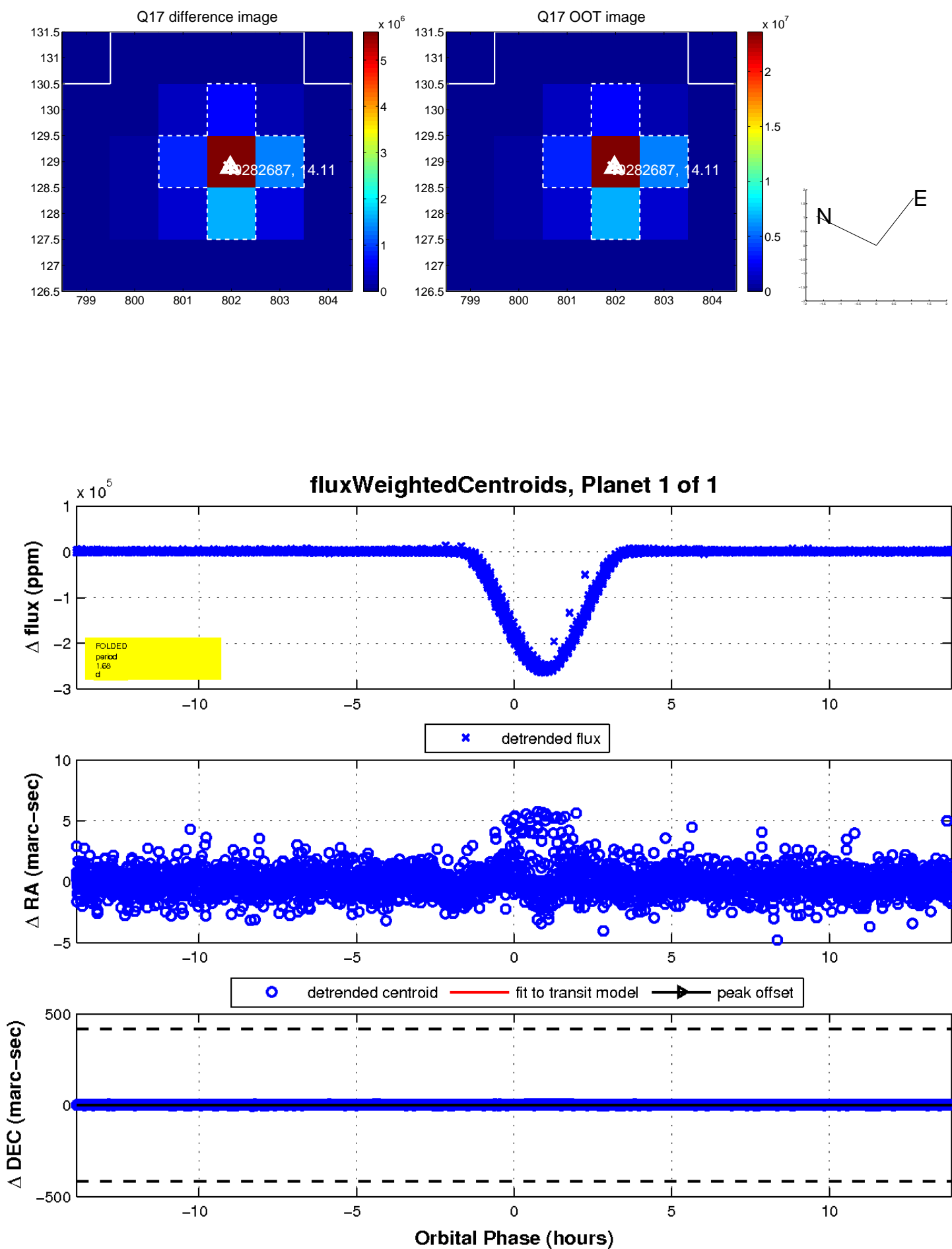
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

