# KEPLER ALANINDA BULUNAN BAZI ÖRTEN ÇİFT SİSTEMLERİN YÖRÜNGE PARAMETRELERİNİN HESAPLANMASI

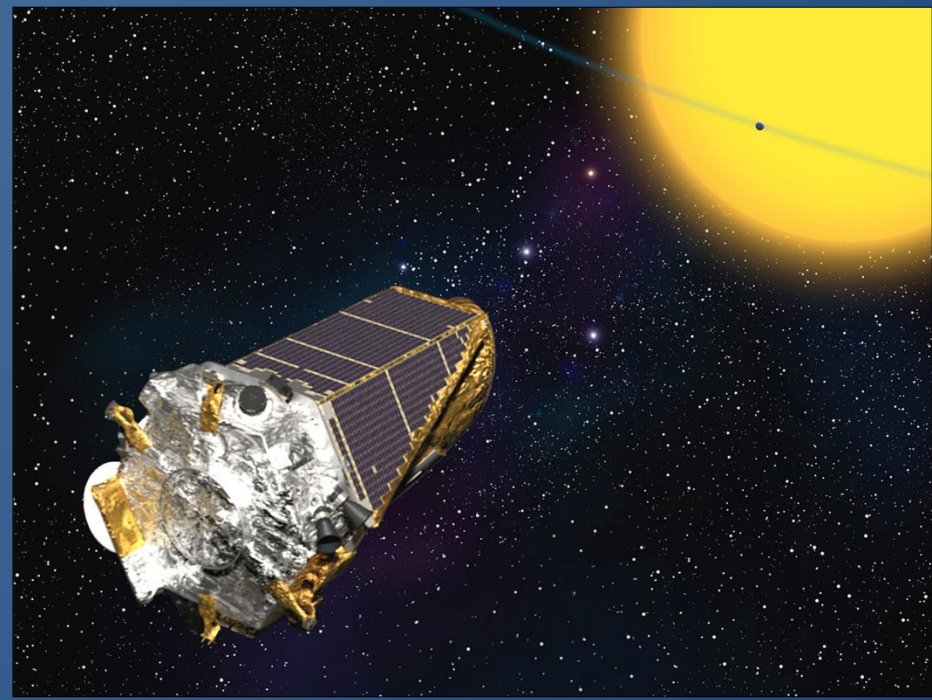
Kutay Arınç ÇOKLUK

Ege Üniversitesi
Fen Fakültesi
Astronomi ve Uzay Bilimleri Bölümü

20. Ulusal Astronomi Kongresi
05 Eylül 2016, Atatürk Üniversitesi, Erzurum

# KEPLER UZAY TELESKOBU

- Kepler Uzay Teleskobu 2009 yılında, yer yörüngesine fırlatıldı.
- Cygnus(Çalgı),  Lyra(Kuğu)
- 165.000 yıldız, 5.5 milyar nokta, 30 dakika ve 1 dk
- Hassas ölçümler!
- Ötegezegen, çift yıldızlar, yıldız sismolojisi, aktivite, …



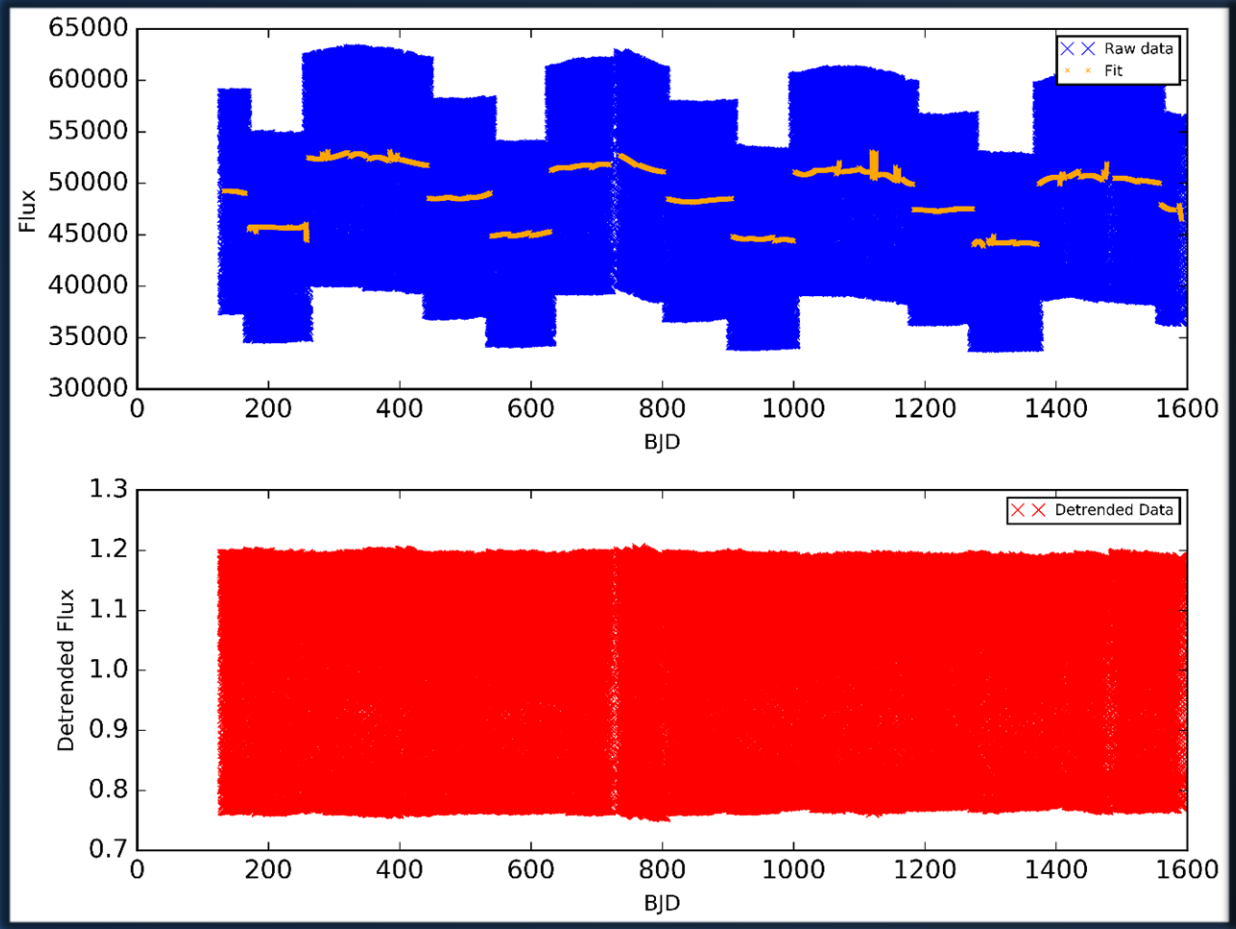
# ÇALIŞMALARIMIZ

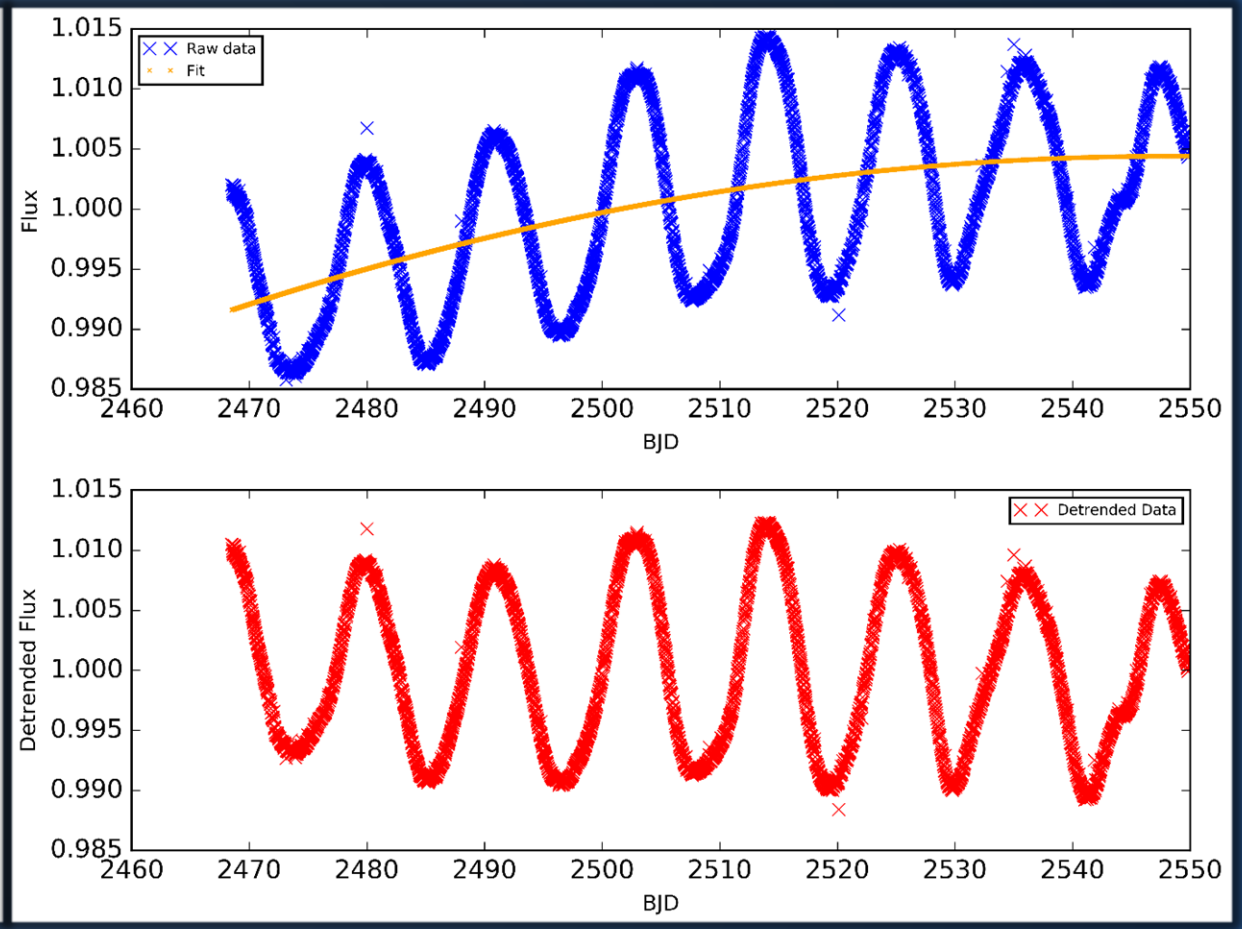
- **Amaç:** Kepler benzeri uydulardan elde edilen gözlemlerin analizlerinin farklı bilimsel hedefler için otomatik yapılması

- Kodlar, **Python** dili kullanılarak yazılmıştır.

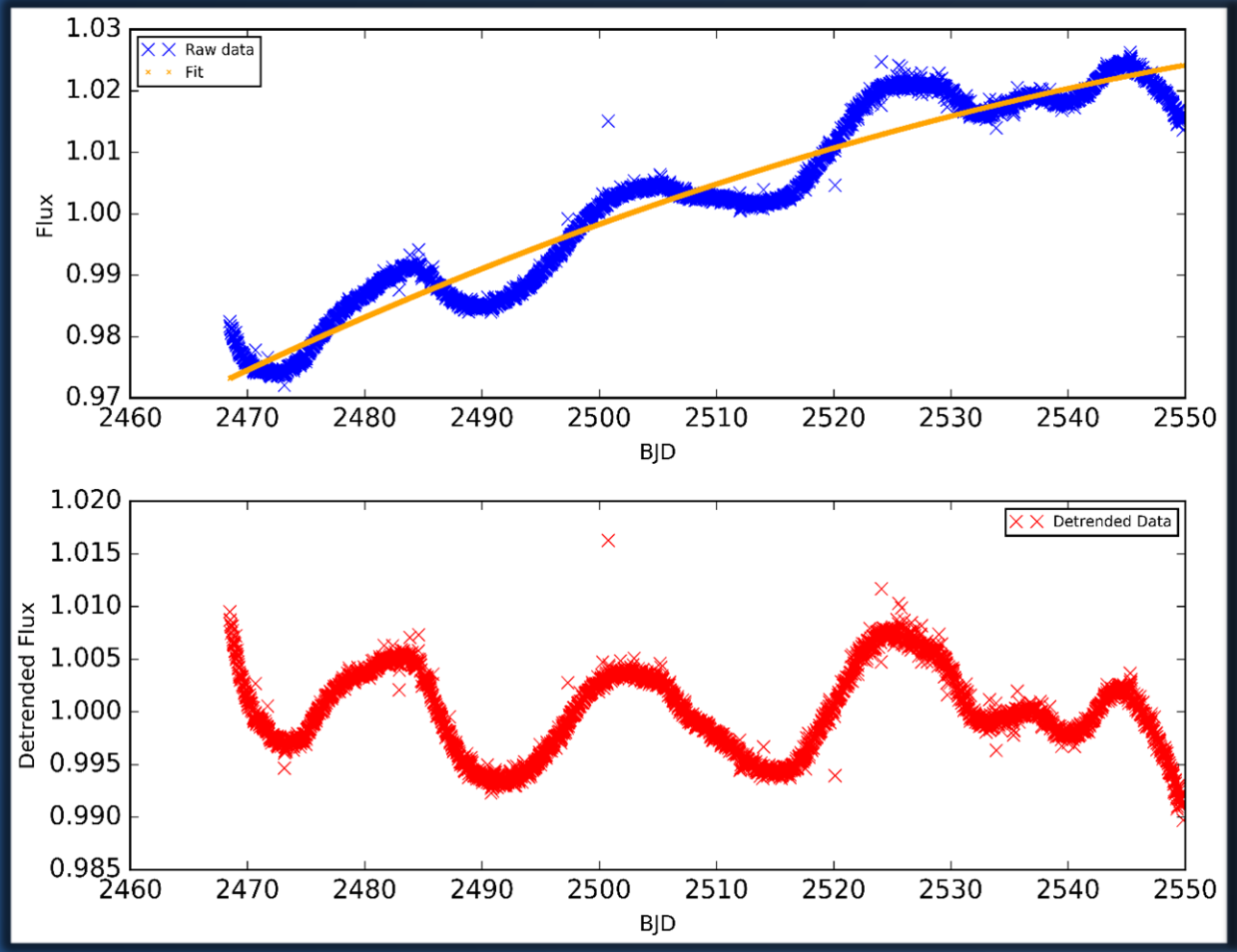
- TÜBİTAK 2209-A araştırma projeleri destek programına başvurulmuştur (2016).

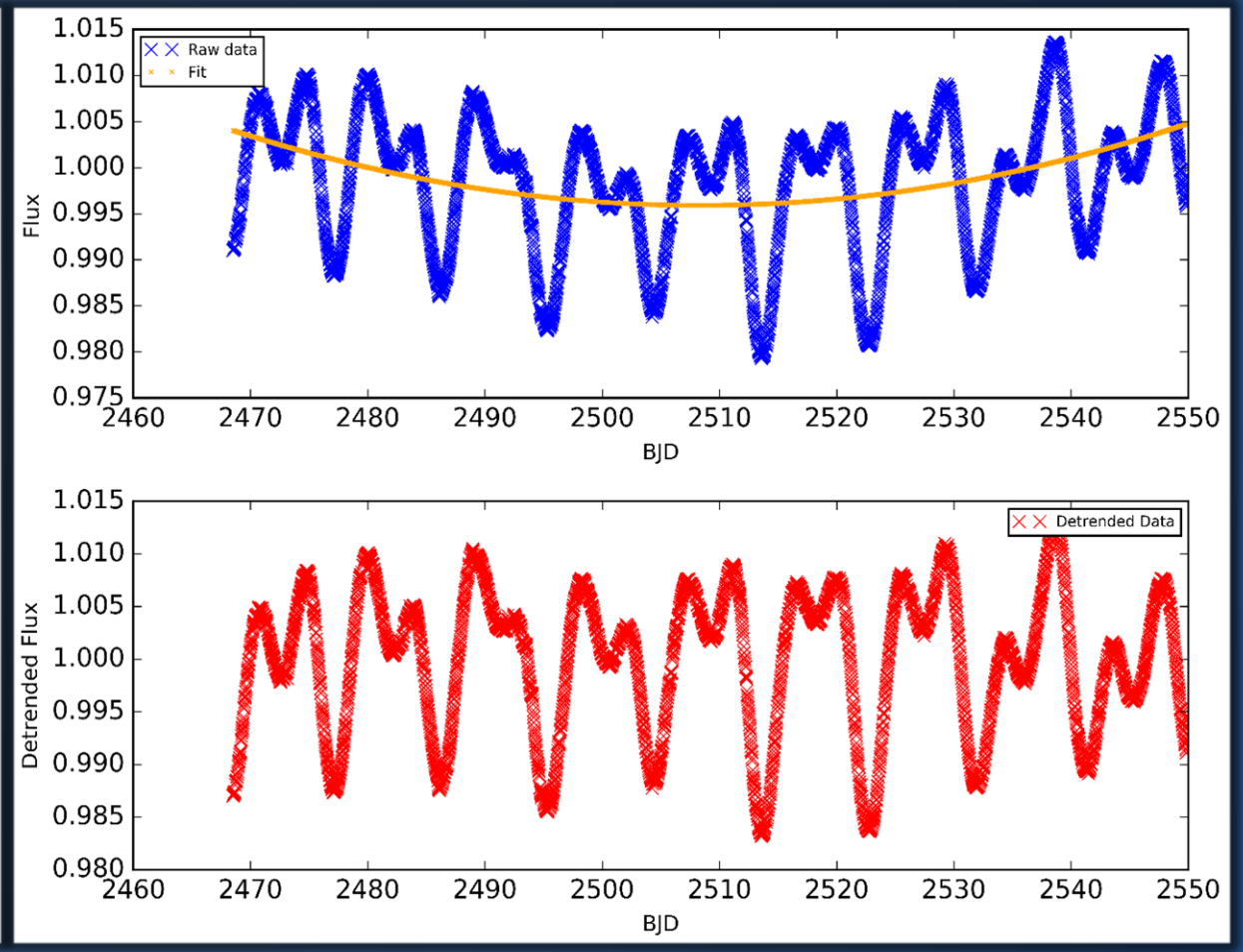
# DETREND


Raw data
Fit
Flux
BJD
Detrended Data
Detrended Flux
BJD

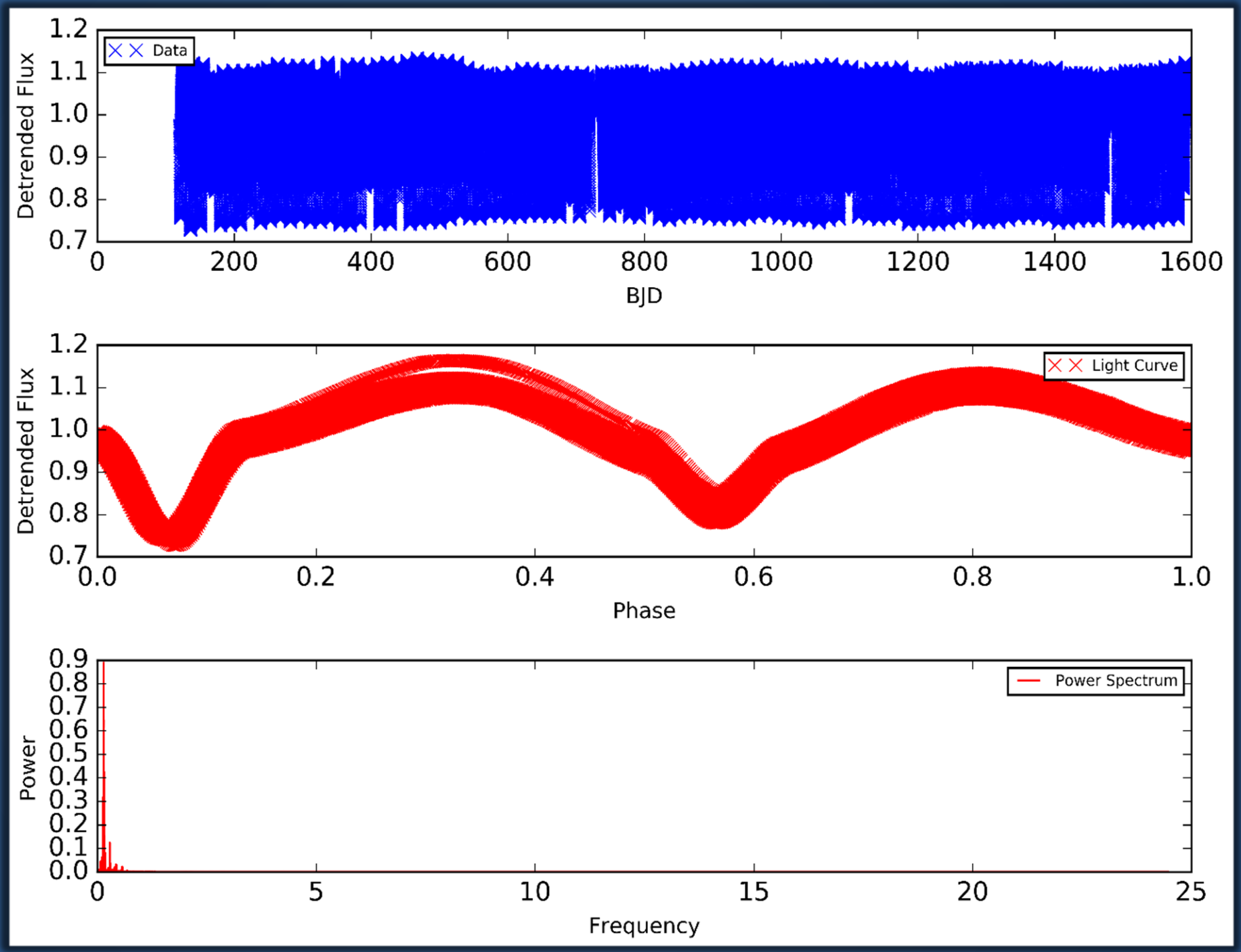

Raw data
Fit
Flux
BJD
Detrended Data
Detrended Flux
BJD

# DETREND (Devam)

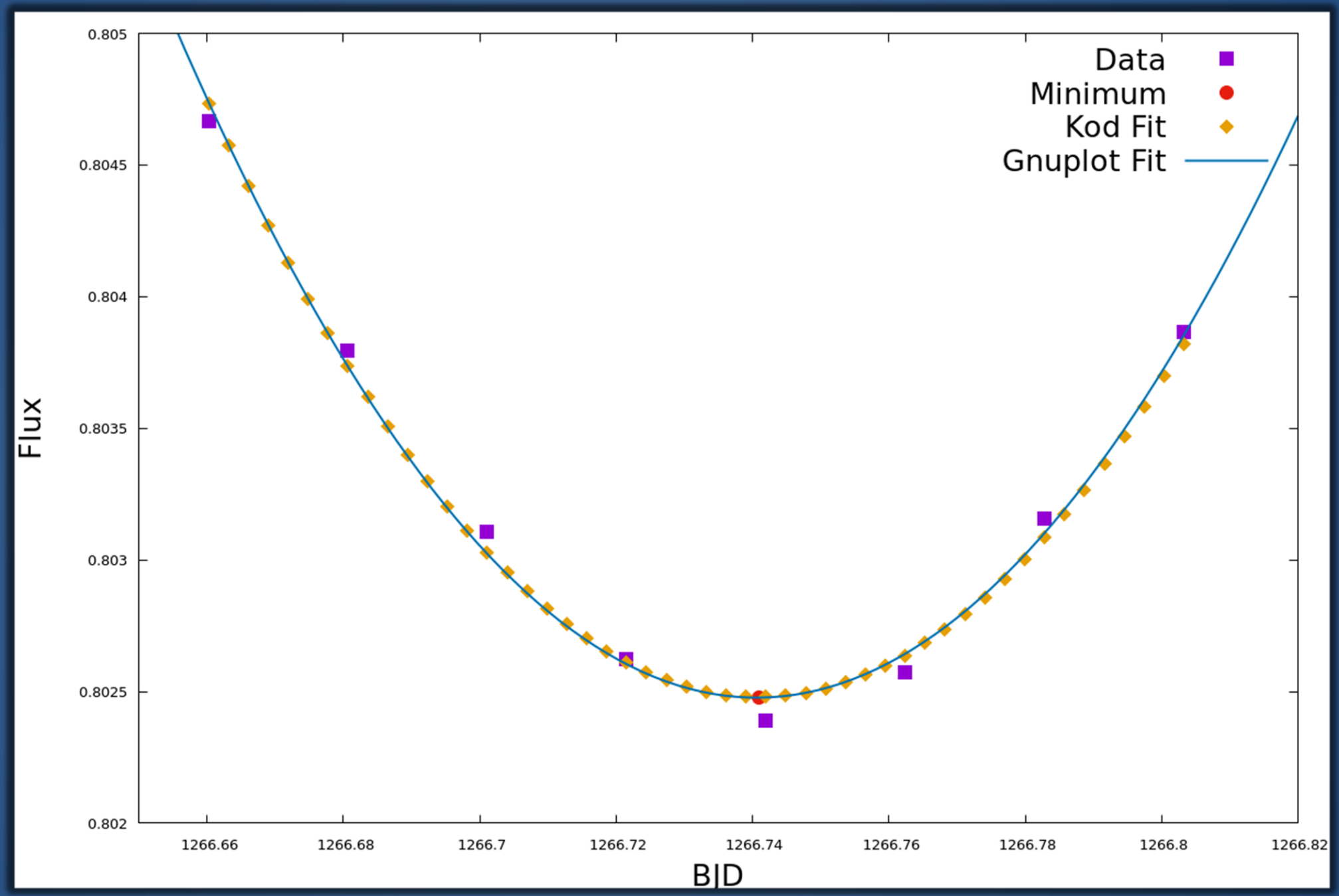


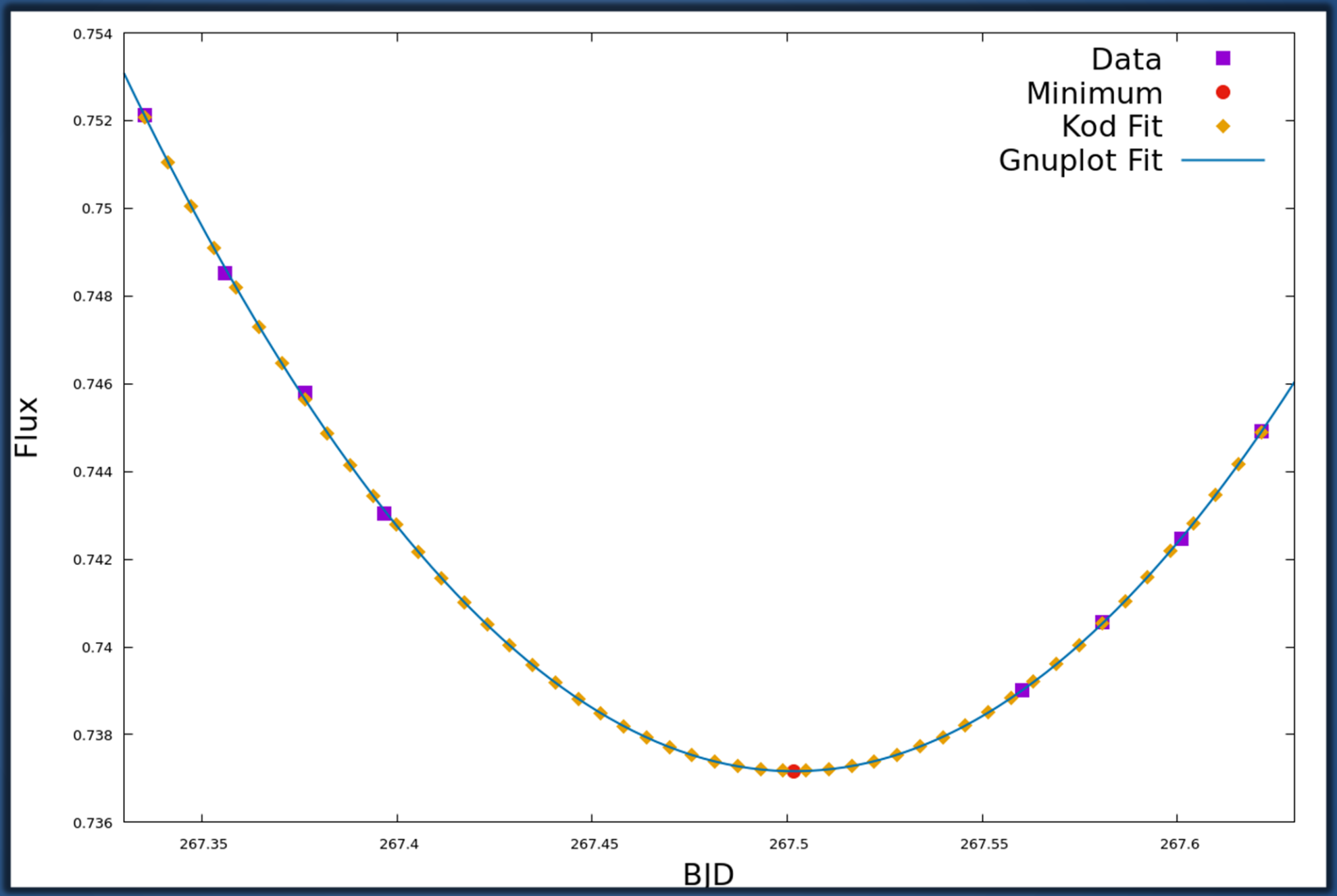
# FFT


Data
Detrended Flux
BJD
Light Curve
Detrended Flux
Phase
Power Spectrum
Power
Frequency

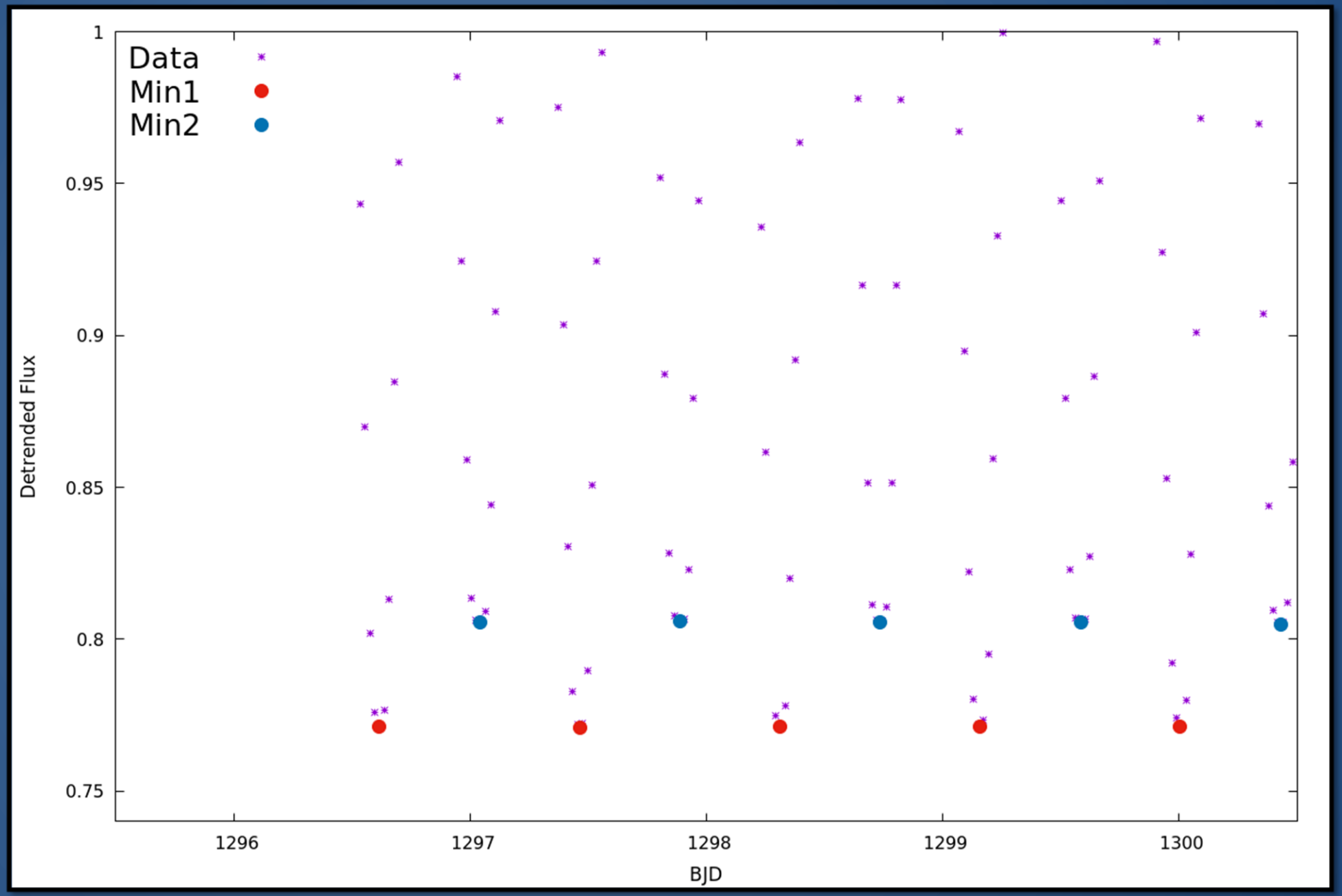
# FIT


Data
Minimum
Kod Fit
Gnuplot Fit
Flux
BJD
0.805
0.8045
0.804
0.8035
0.803
0.8025
0.802
1266.66
1266.68
1266.7
1266.72
1266.74
1266.76
1266.78
1266.8
1266.82

# FIT (Devam)


Data
Minimum
Kod Fit
Gnuplot Fit
Flux
BJD
0.754
0.752
0.75
0.748
0.746
0.744
0.742
0.74
0.738
0.736
267.35
267.4
267.45
267.5
267.55
267.6

# MİNİMUM OKUMA



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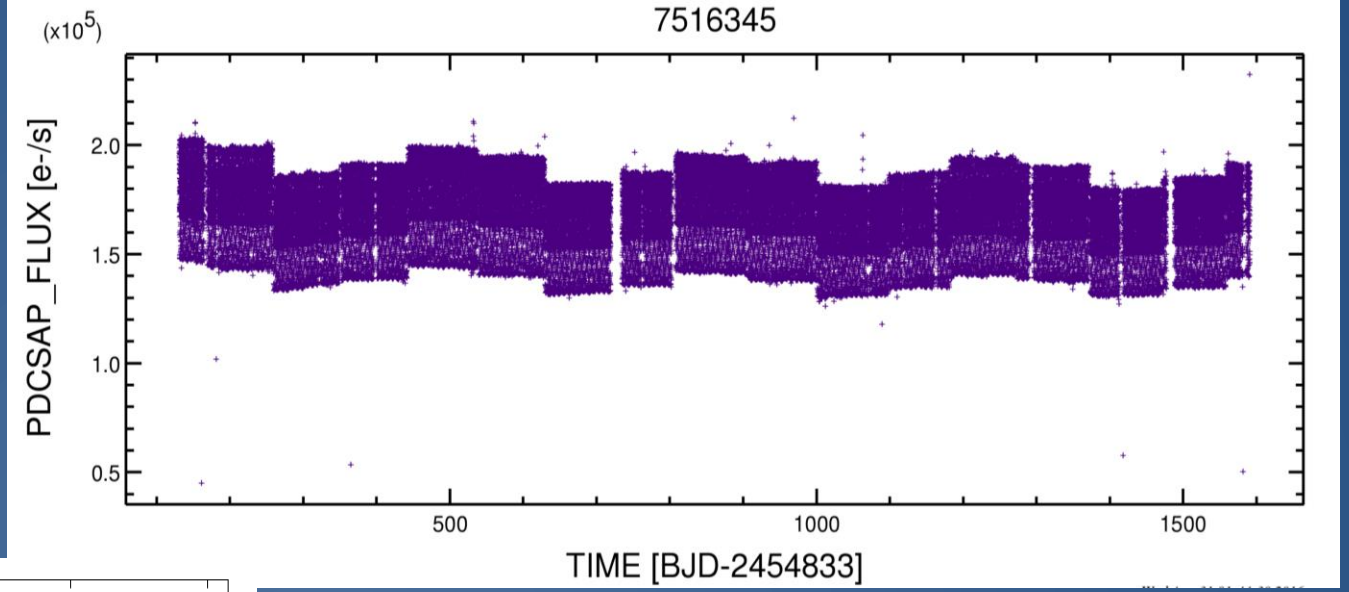


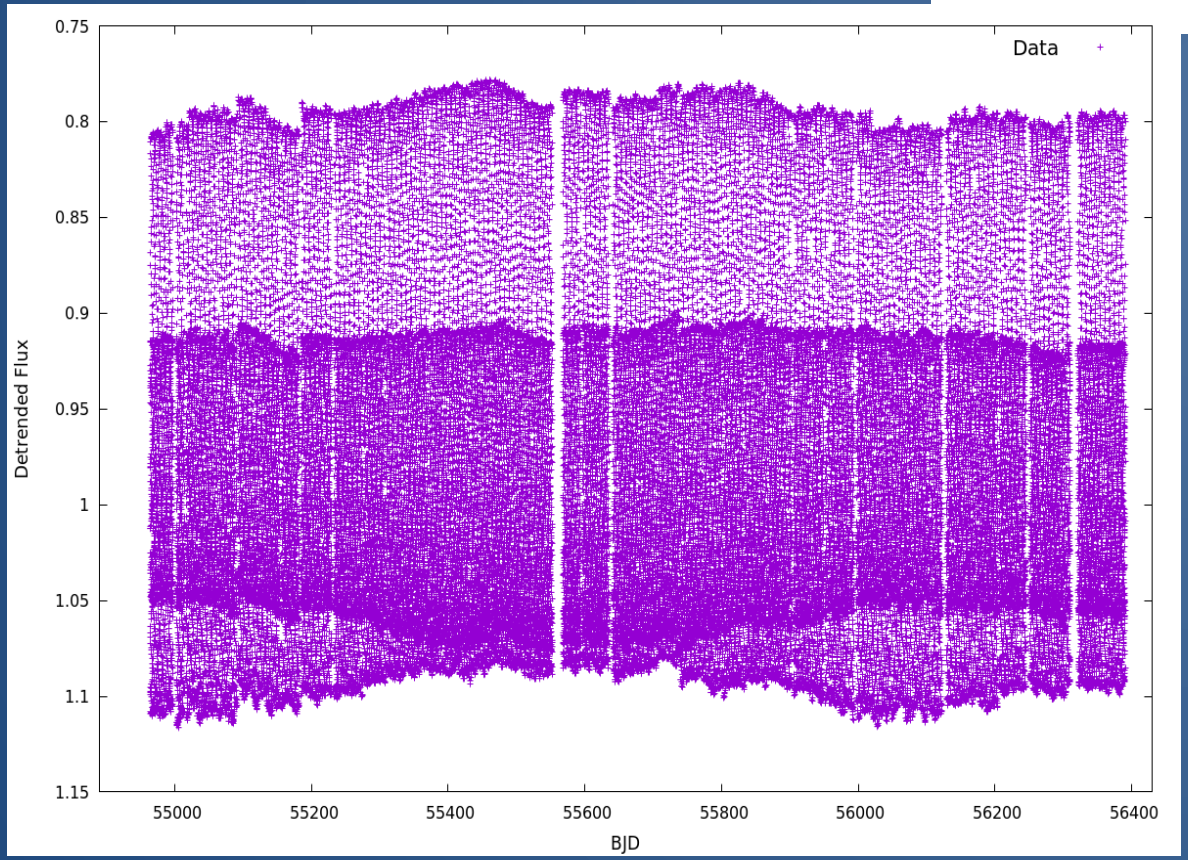


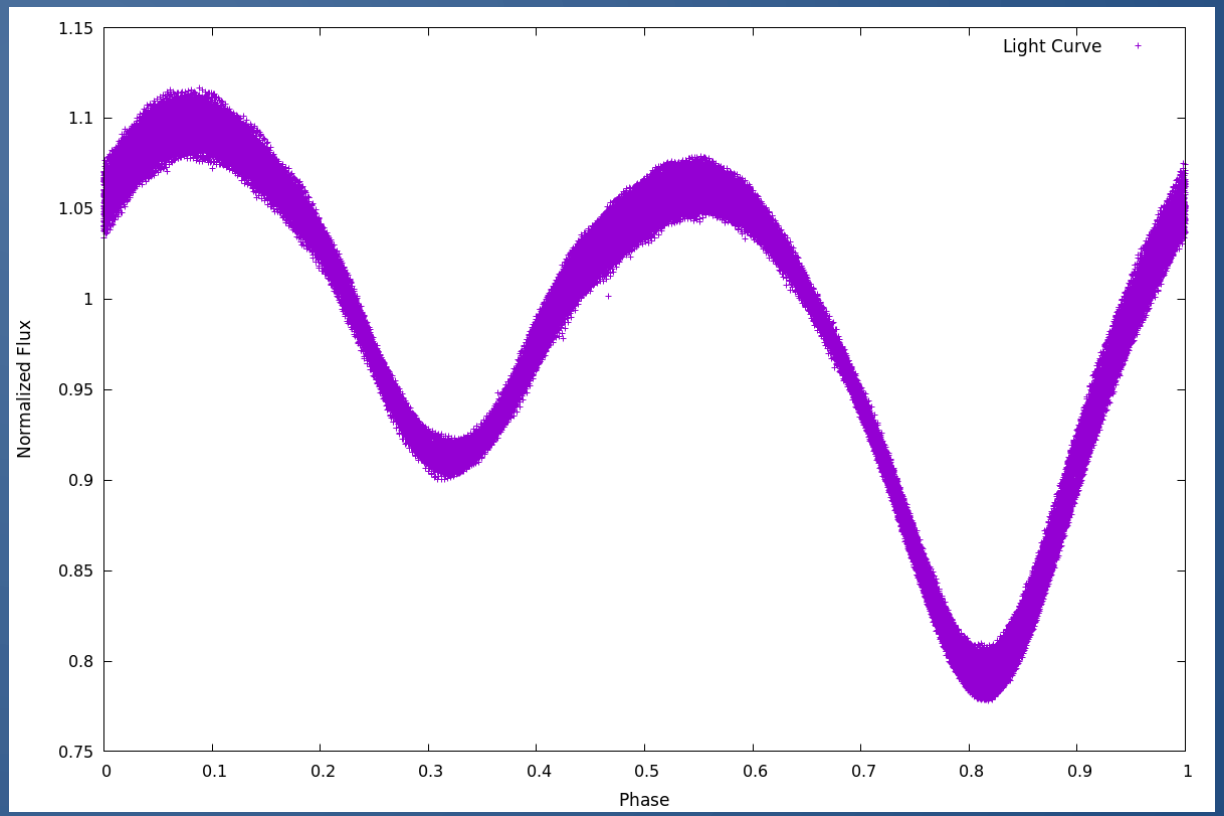

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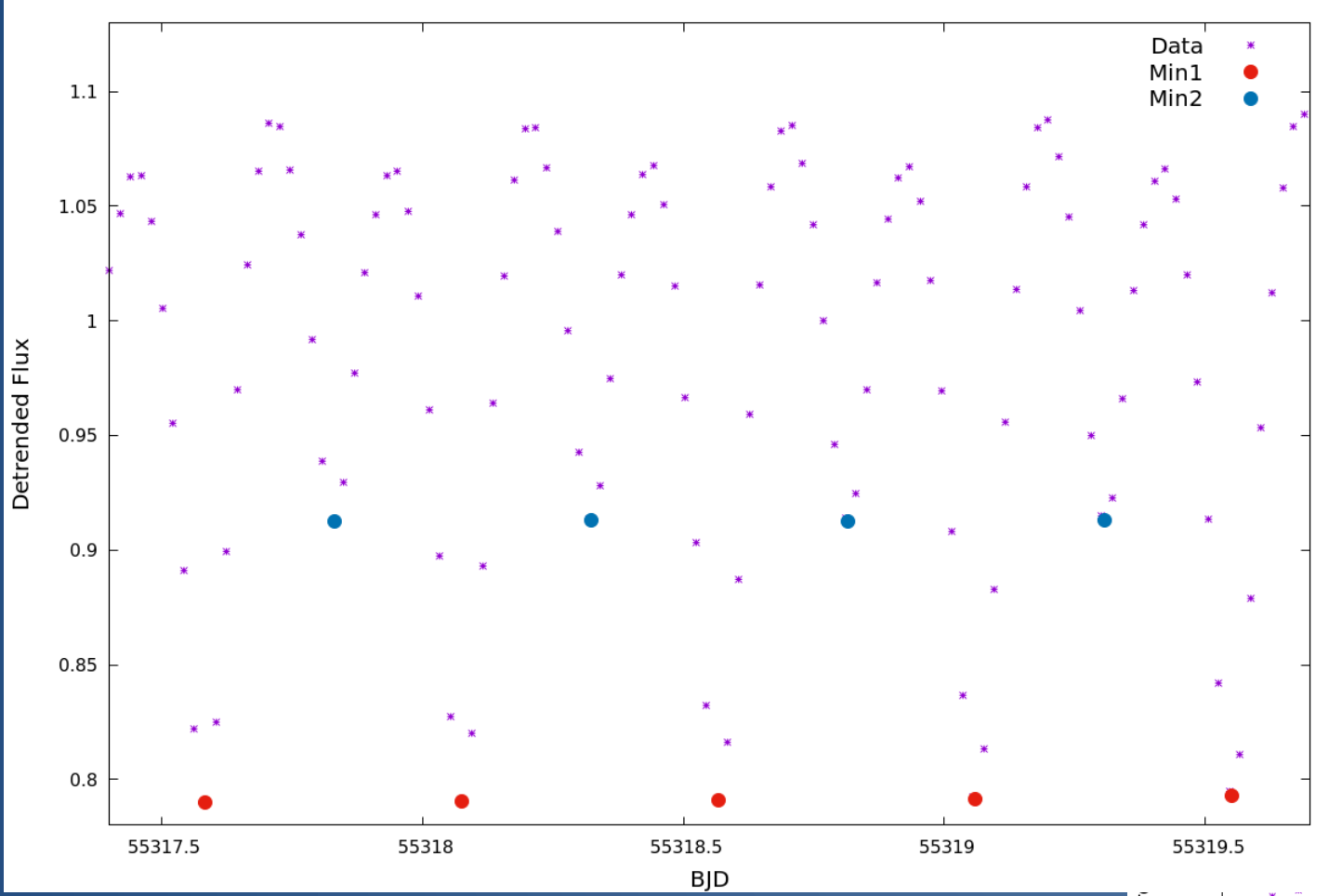


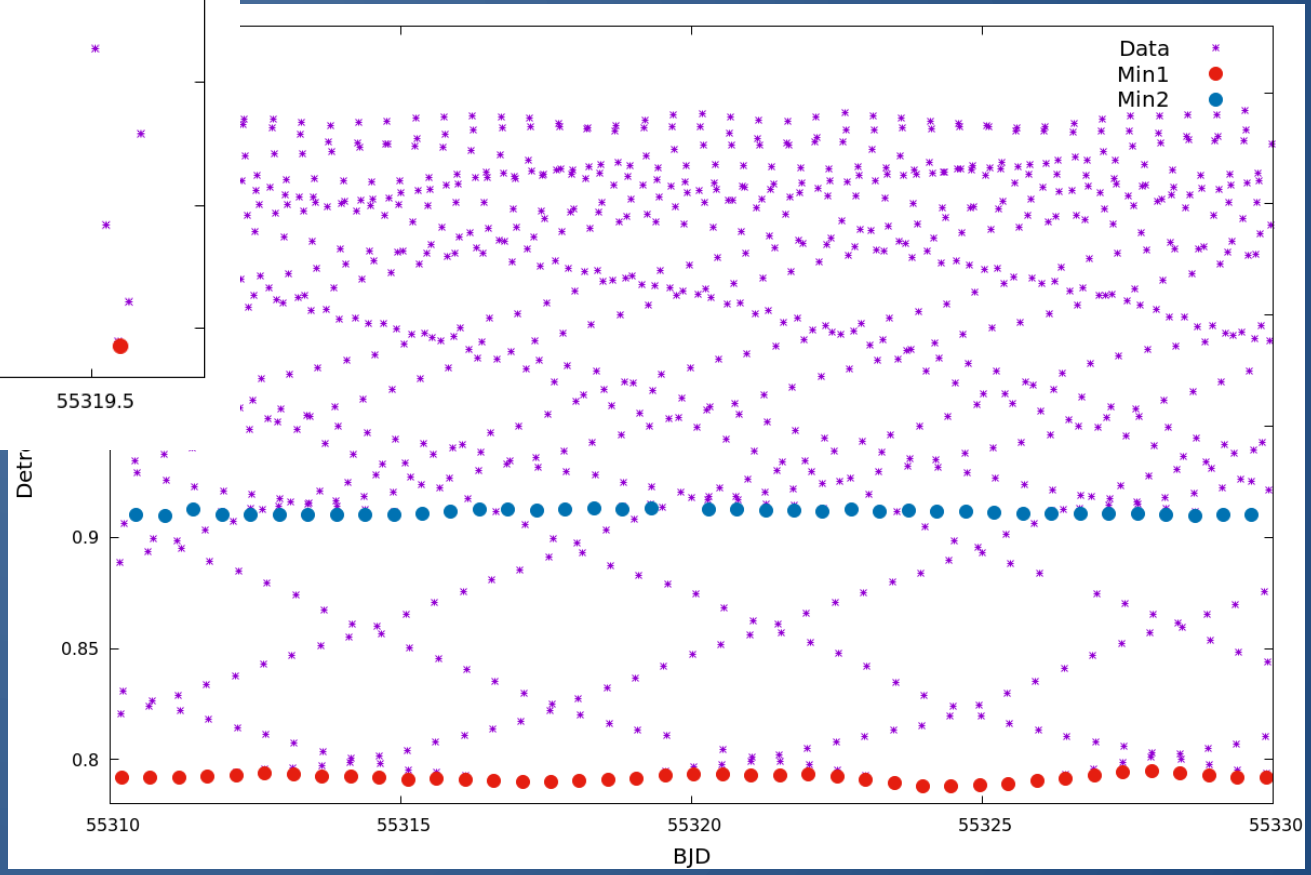

# HEDEFLERİMİZ

- Çok sayıda yakın çift yıldız verisi üzerinde çalışma
- Minimum zamanları okuma ve dönem değişimine neden olan mekanizmaları inceleme
- Işık eğrilerinin modellenmesi ve yörünge ve fiziksel öğelerin elde edilmesi.

# Teşekkür Ederim

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