

# UZUN DÖNEMLİ DEĞİŞEN YILDIZ GÖZLEMLERİ VE SONUÇLARI

*Tuba İKİZ*

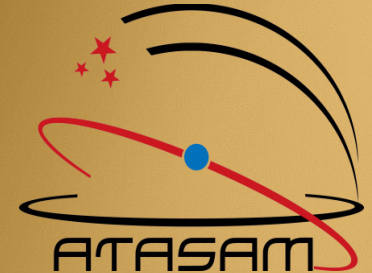
*Burak Bülent GÜÇSAV*

*Cahit YEŞİLYAPRAK*



*19. Ulusal Astronomi Kongresi*

*2-6 Şubat 2015-ODTÜ, Ankara*



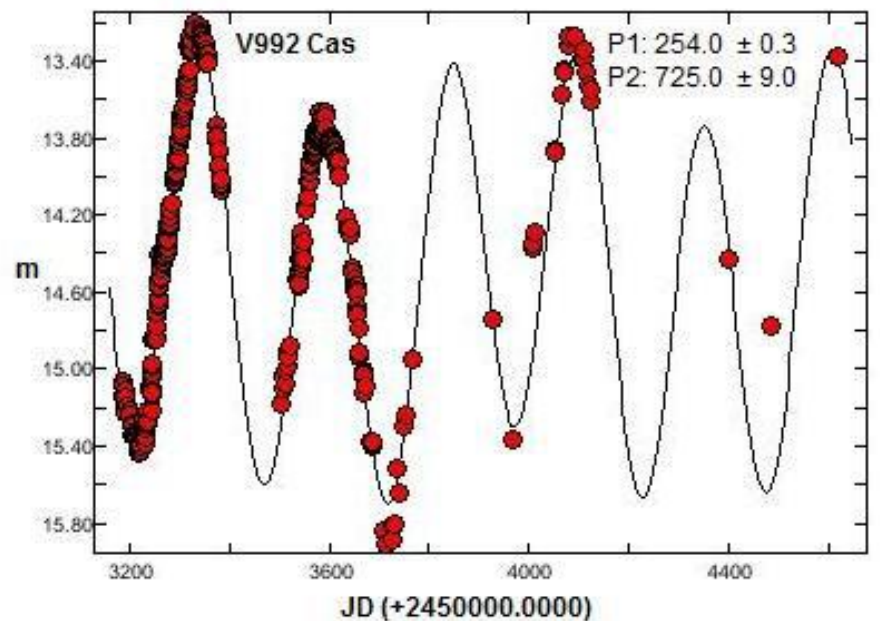
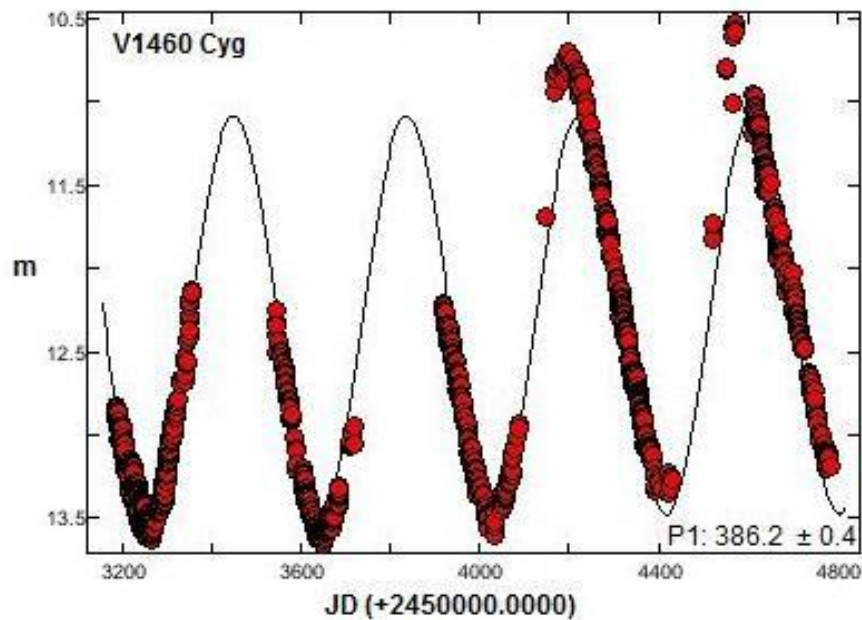
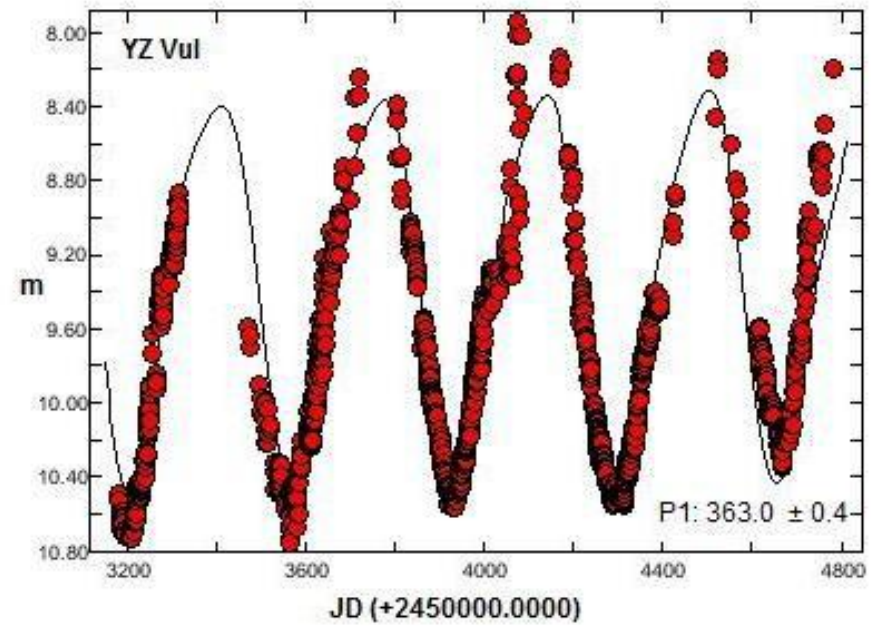
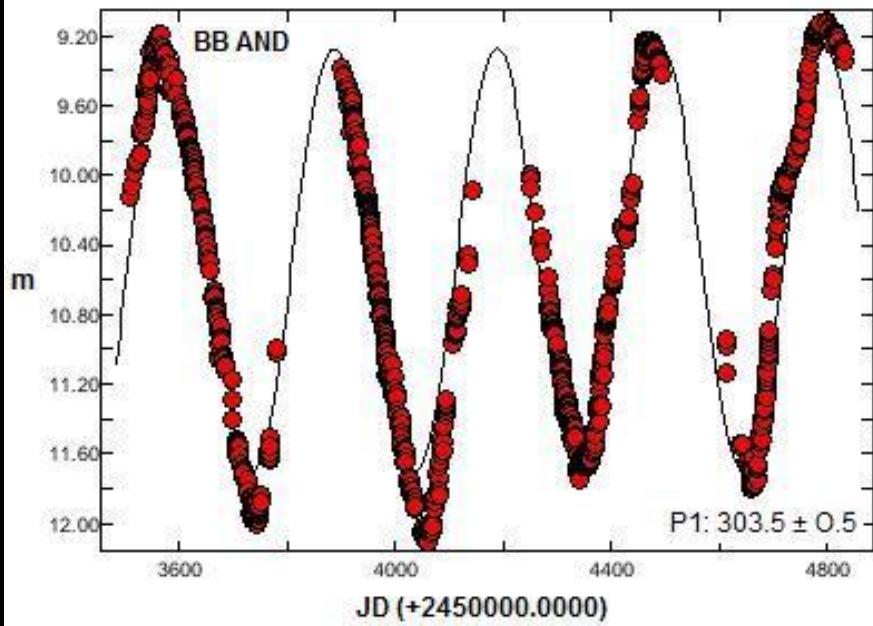
<b>TUG'DA UZUN DÖNEMLİLER</b>	<b>ROTSE IIID</b>	<b>T60</b>
<b>Yıldız Türü</b>	SR, Mira	SR, Mira, SARV
<b>Gözlem Süresi</b>	2004 - 2012	2010 - 2014
<b>Gözlenen Bölge</b>	> 100	17
<b>Filtre</b>	-	B, V, R, I
<b>Gözlem Verisi Sayısı</b>	> 100.000	> 15.000
<b>Nesne Sayısı</b>	> 2.000.000	> 50
<b>İndirgeme Yazılımı</b>	Özel Yazılım (TAY Grubu: VSX)	Özel Yazılım (MYRaf2)
<b>Periyot Yazılımı</b>	Peranso / Period 04	Peranso / Period 04

	<b>SR</b>	<b>Mira</b>	<b>SARV</b>
<b>Tayf</b>	Orta (F, G, K) Geç (M, C, S)	Geç (M, C, S)	K, M
<b>Değişim</b>	< 2.5 mag	> 2.5 mag	< 1 mag
<b>Periyot</b>	20 – 2500 g	80 – 1000 g	10 – 200 g
<b>Ortak Özellikler</b>	<b>Kırmızı – Soğuk – Yaşlı – Zoklayan</b>		

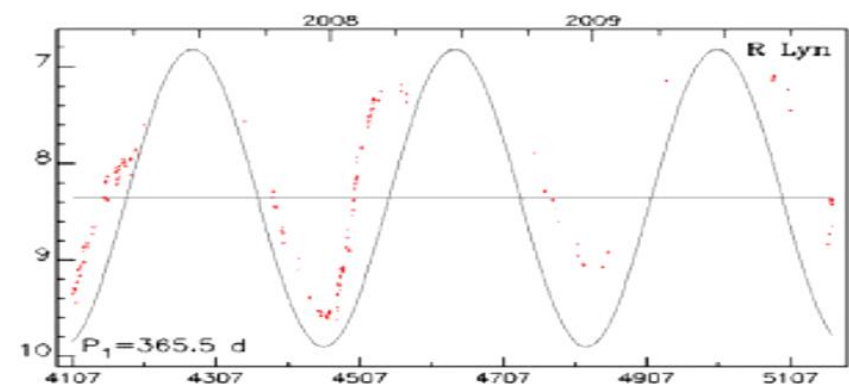
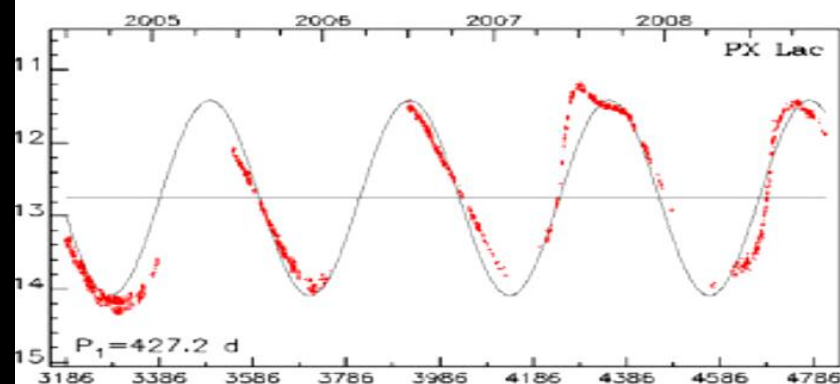
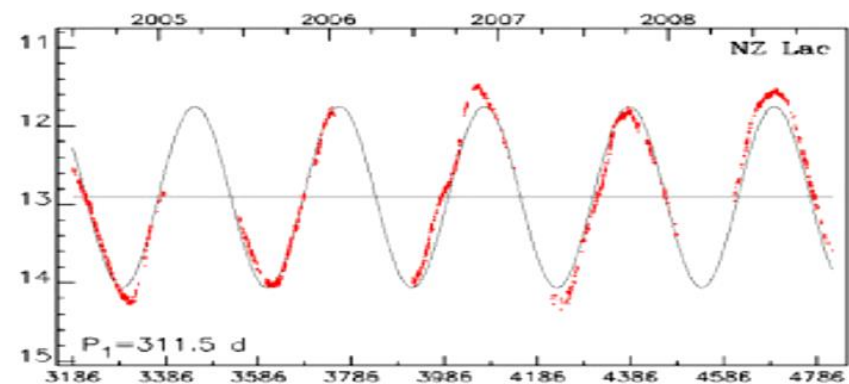
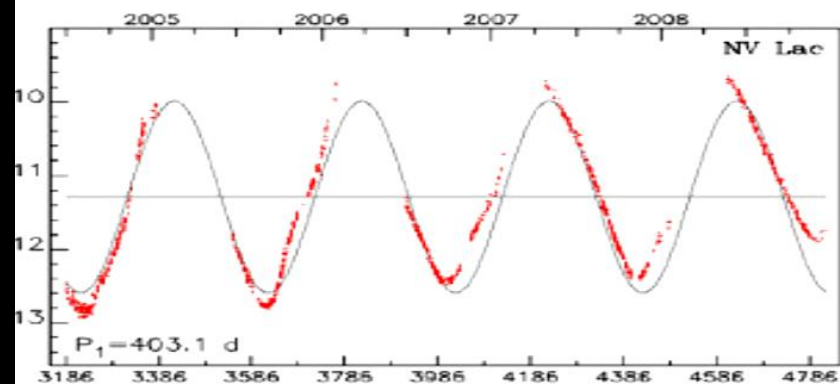
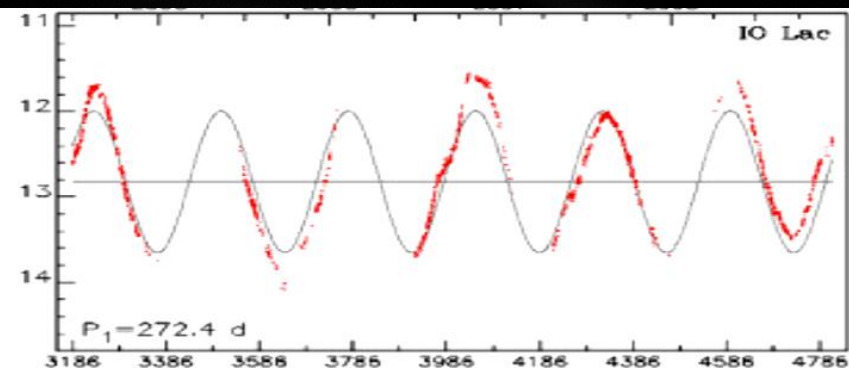
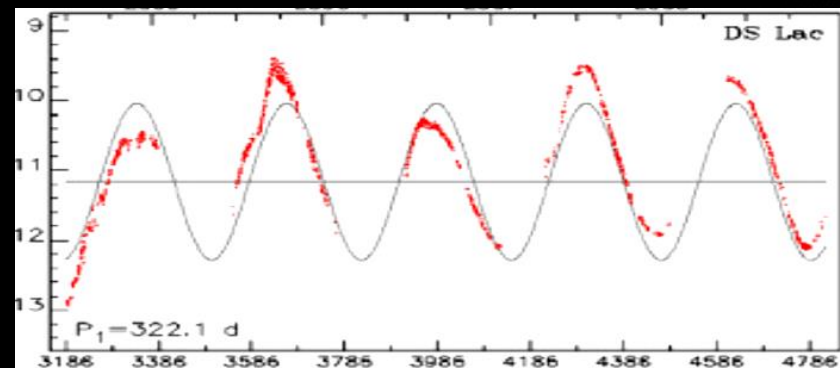
# Neden Kırmızı Yıldız Gözlemleri ?

- ✓ SR —→ Mira evrimi ve ilişkisi
- ✓ Çoklu Periyotlar ve Periyot Değişimi
- ✓ Zonklama Kipleri ve Kütle Kaybı
- ✓ PL – PC – CC Bağıntıları ve sıcaklık, kütle kaybı, yarıçap ilişkileri
- ✓ Uzaklık Ölçeği

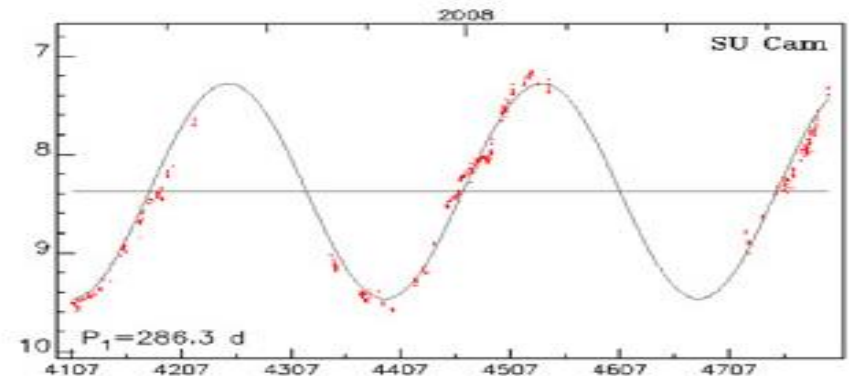
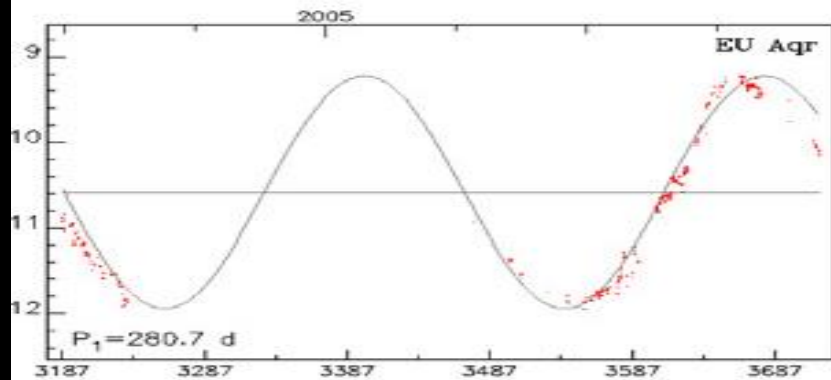
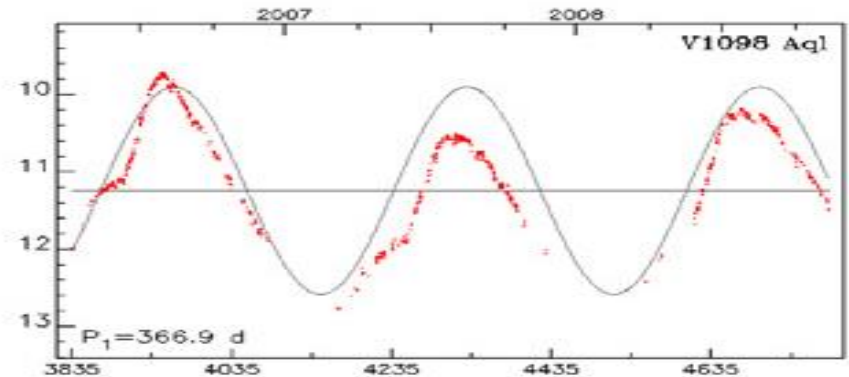
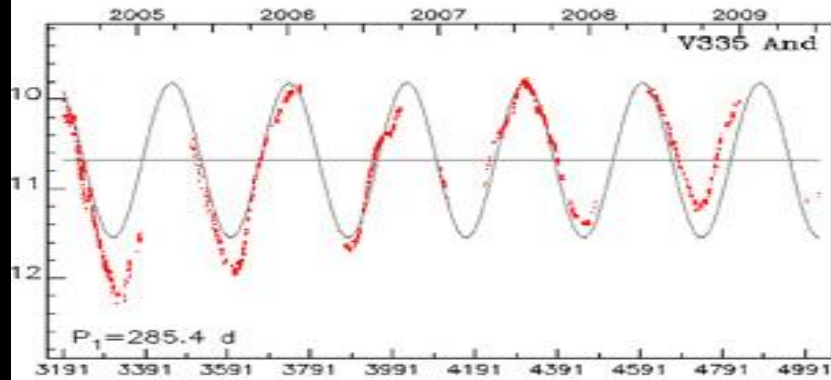
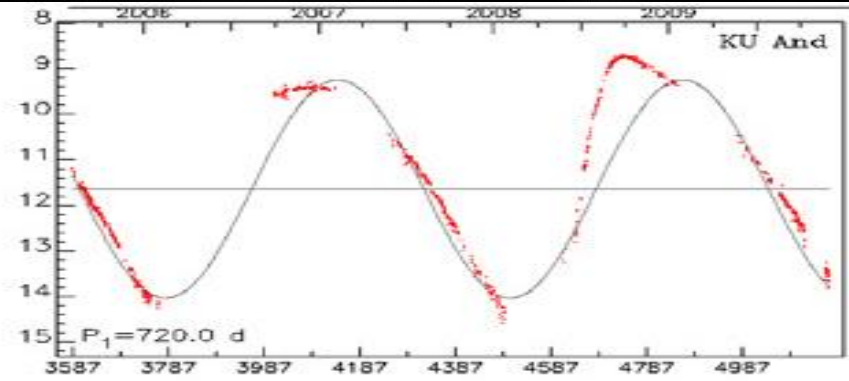
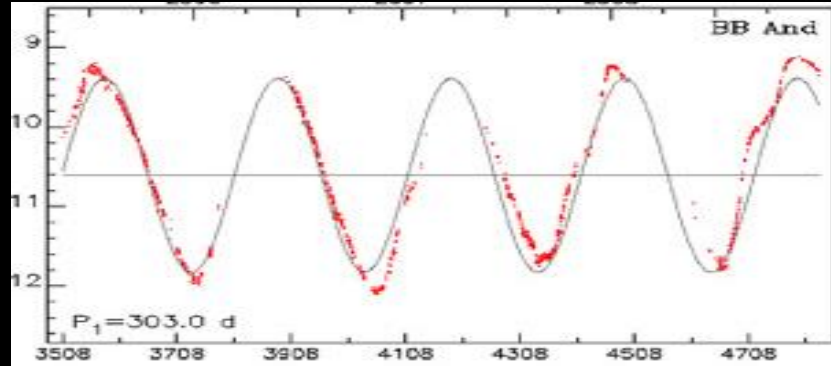
# ROTSE-IIID gözlem sonuçları: Mira Türü Değişenler



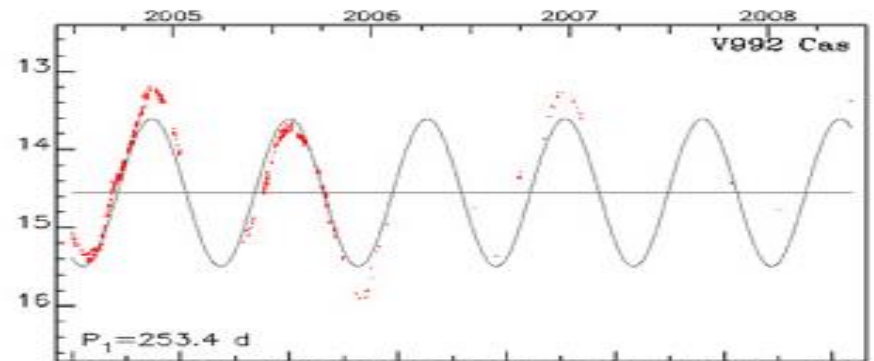
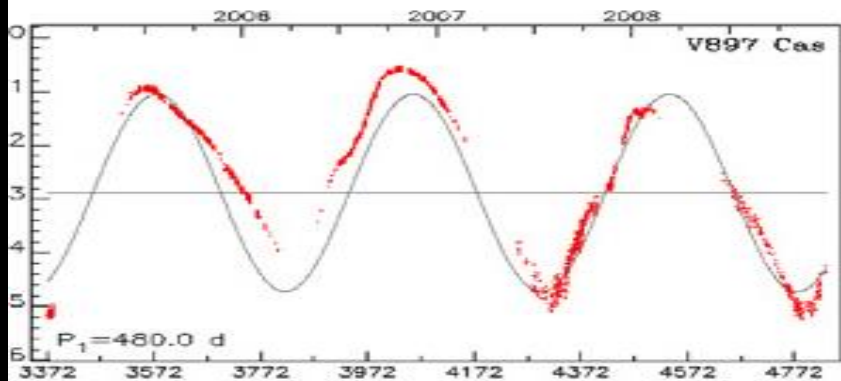
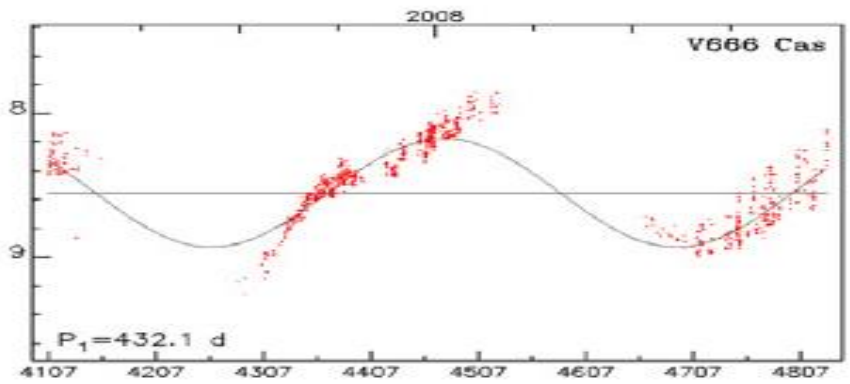
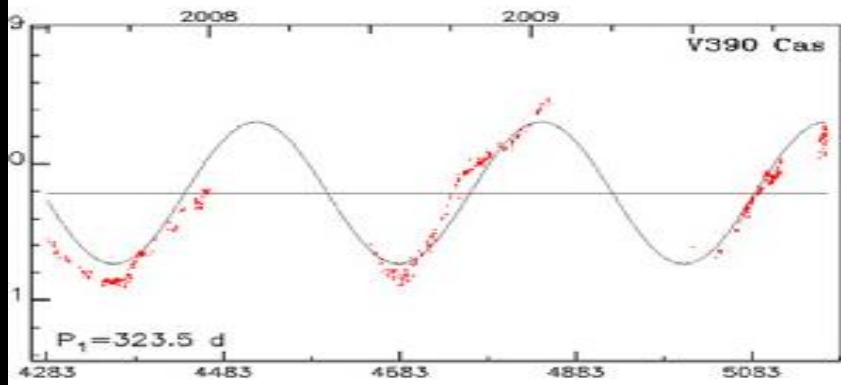
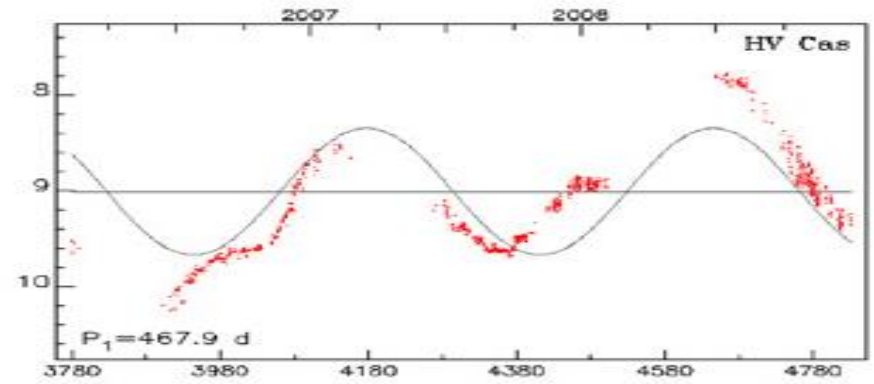
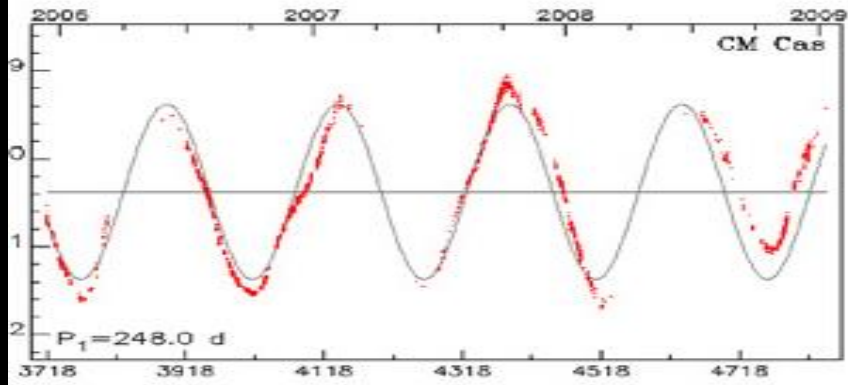
# ROTSE-IIID gözlem sonuçları: Mira Türü Değişenler



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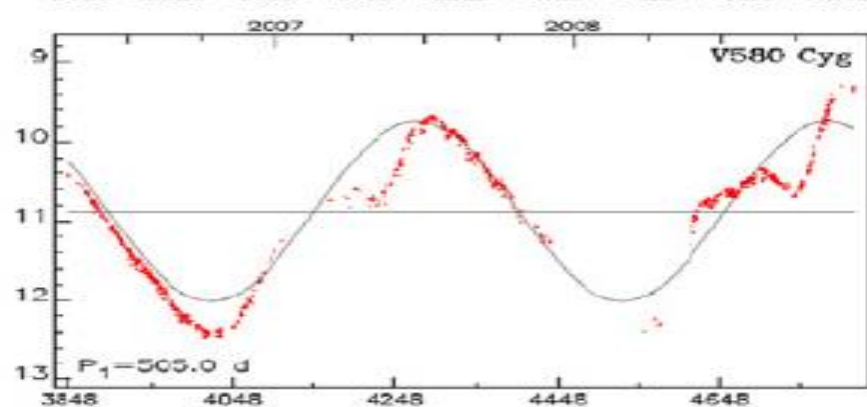
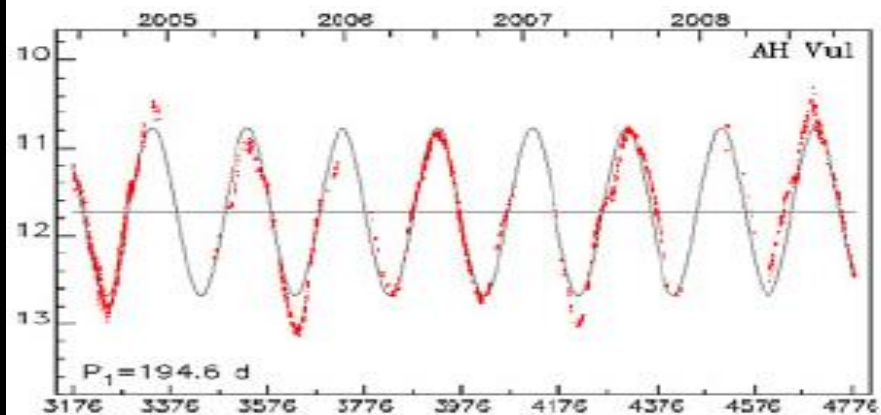
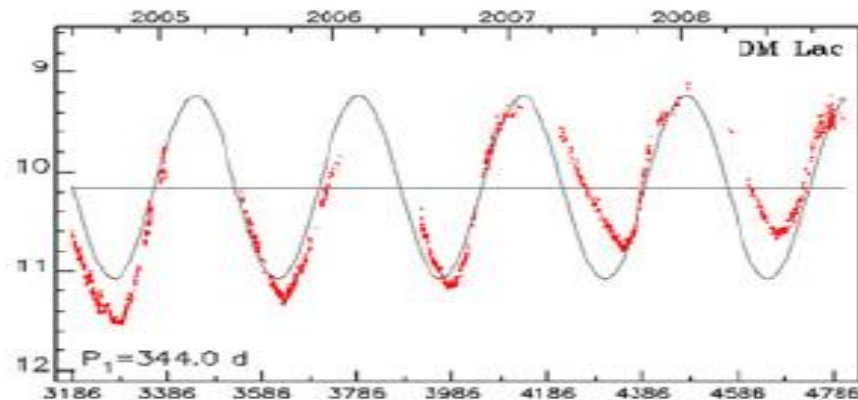
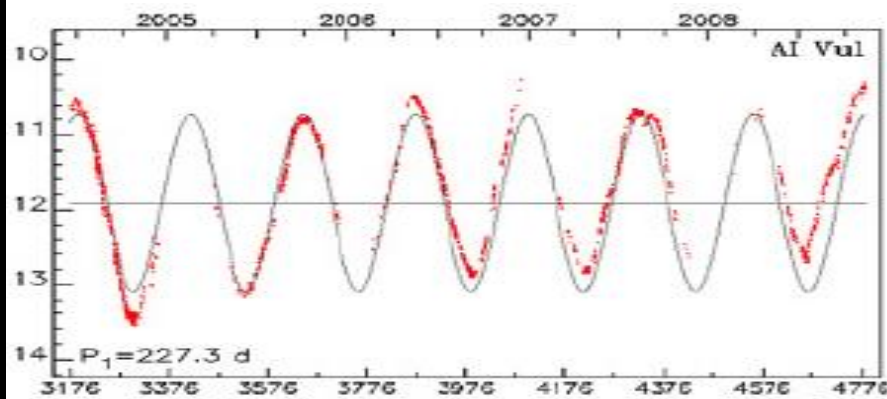
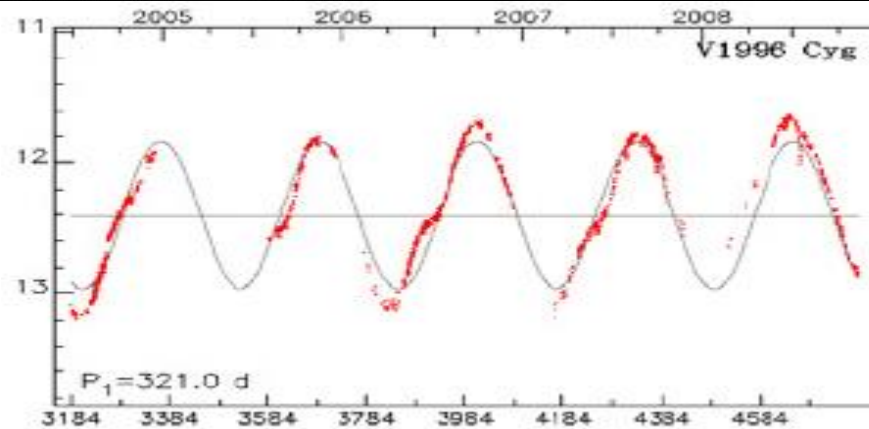
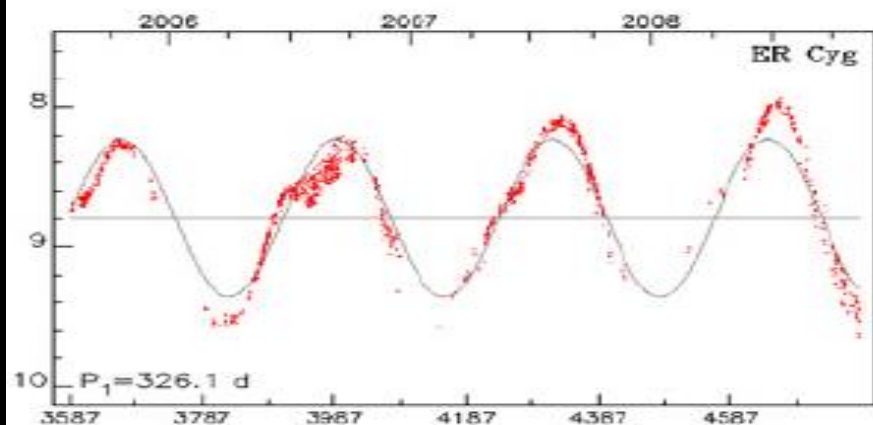


# ROTSE-IIID gözlem sonuçları: Mira Türü Değişenler



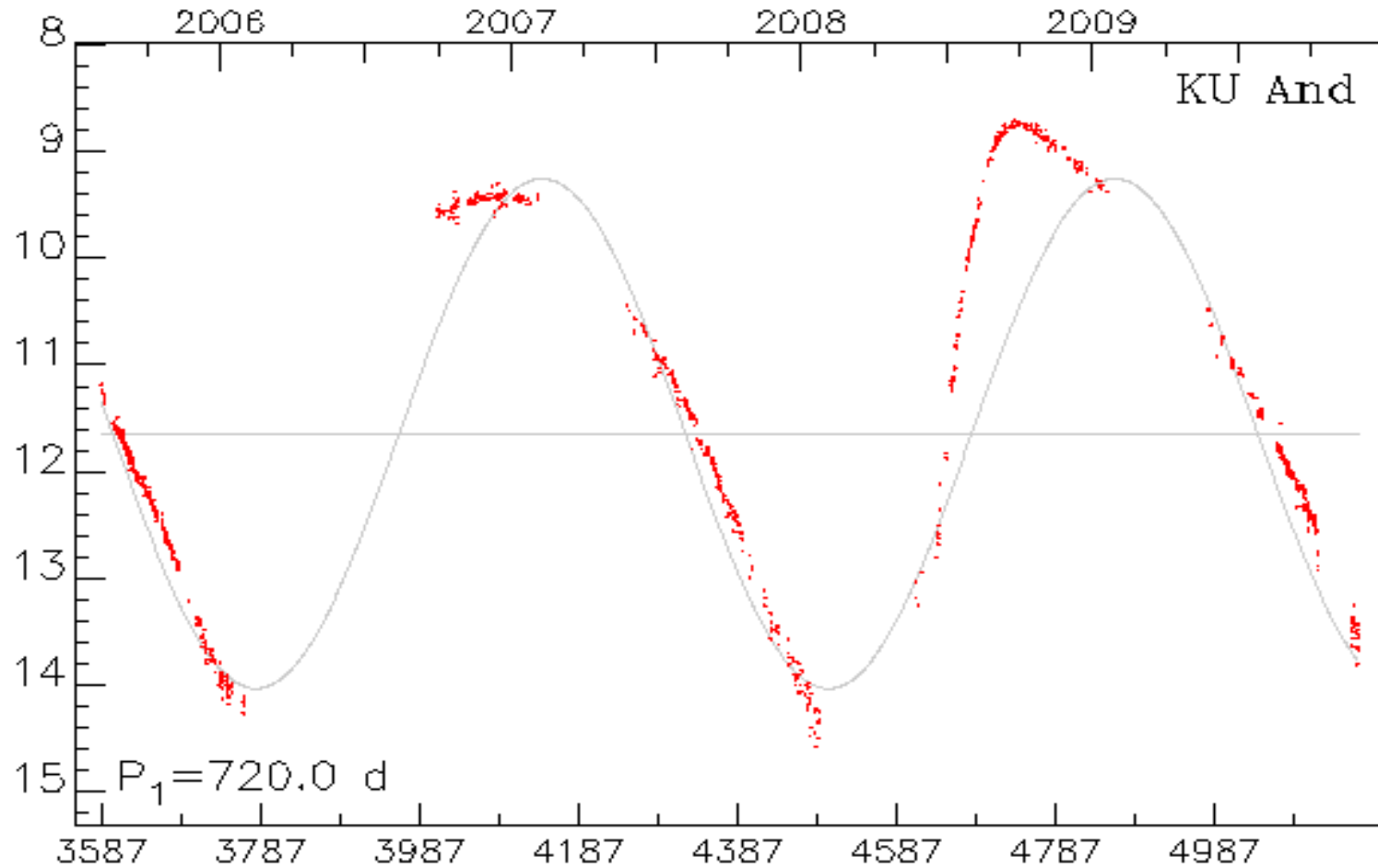


# ROTSE-IIID gözlem sonuçları: Mira Türü Değişenler

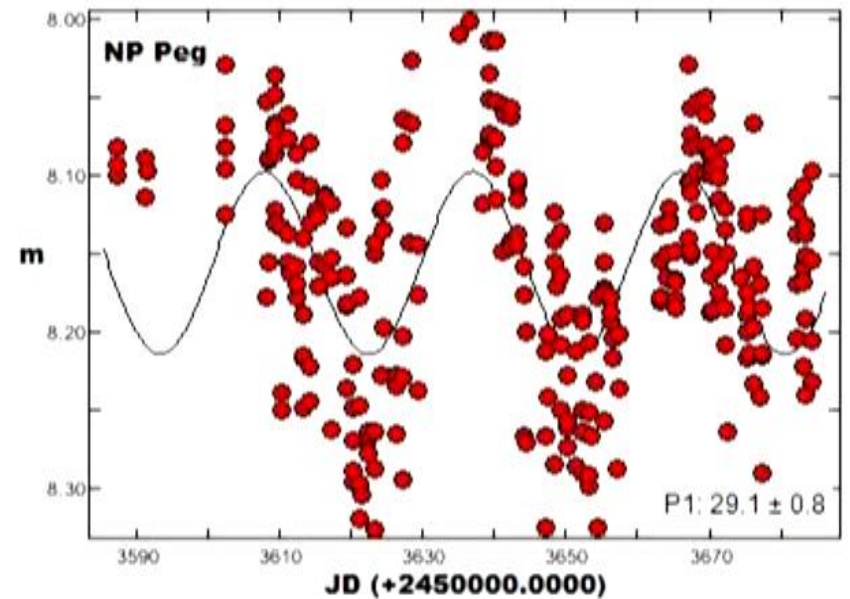
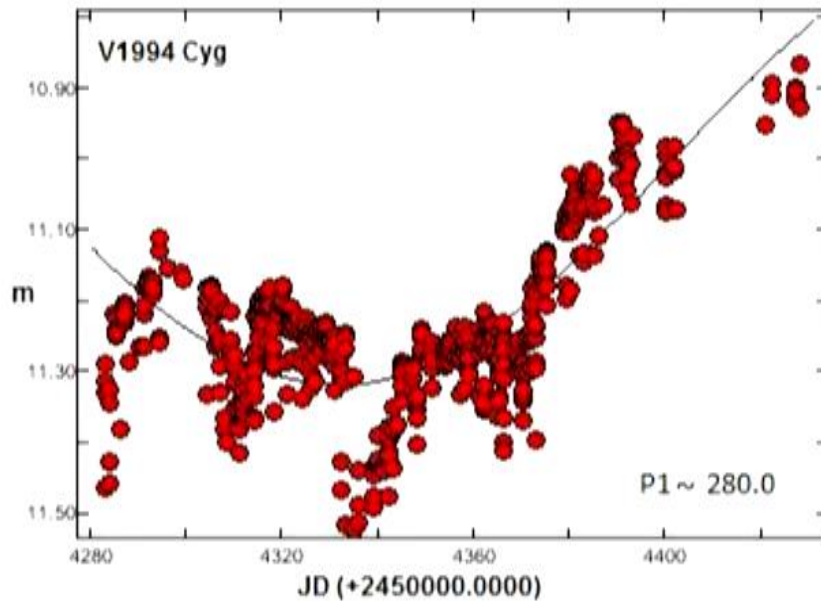
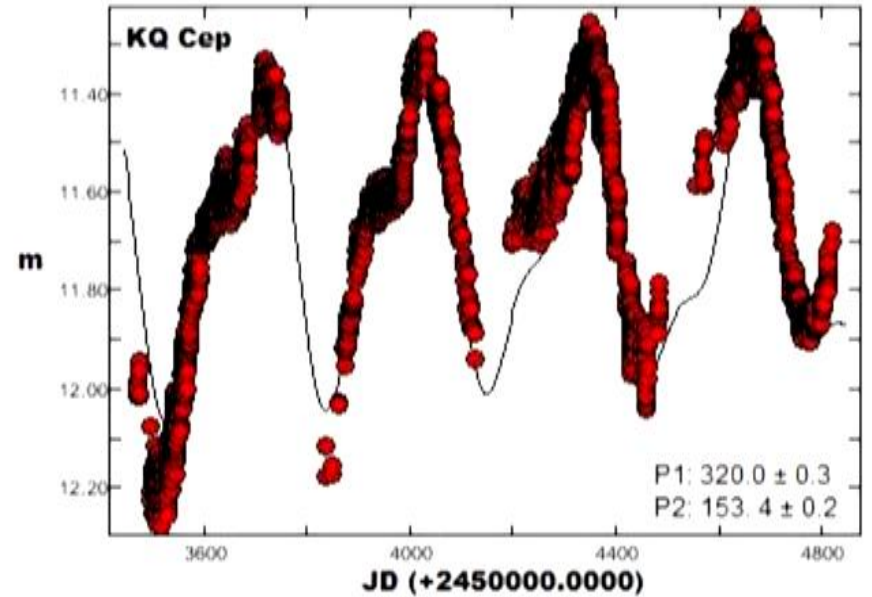
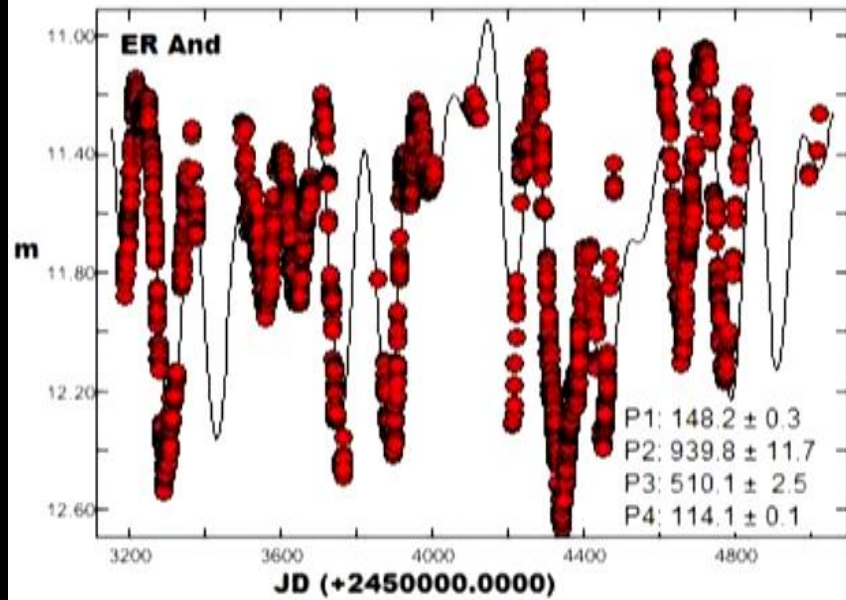


## ROTSE-IIID gözlem sonuçları:

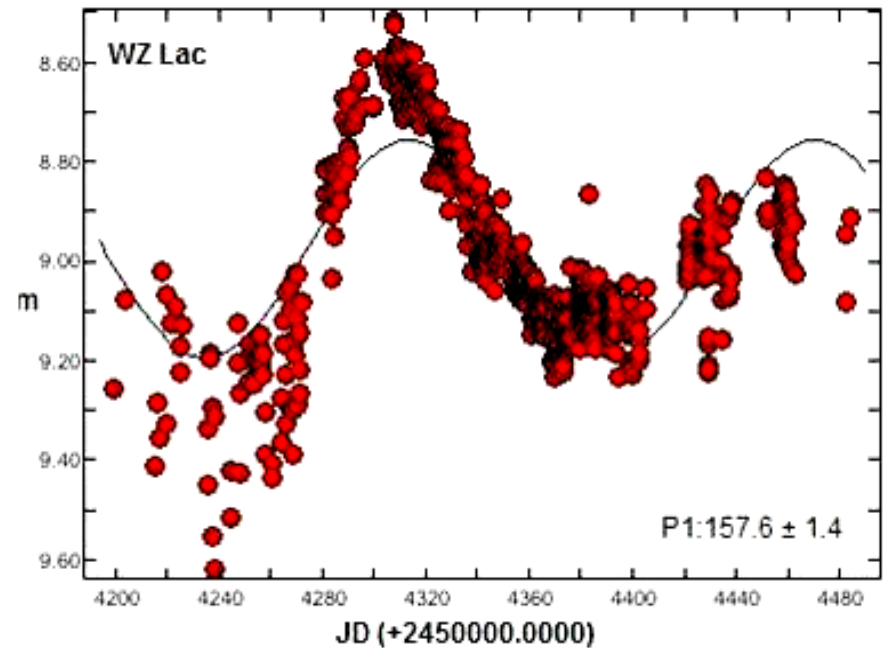
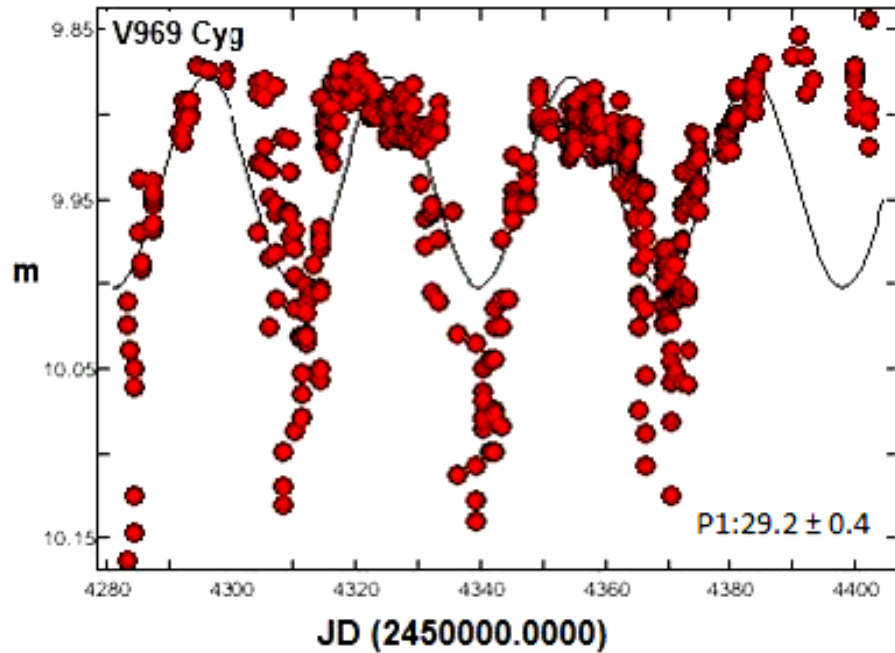
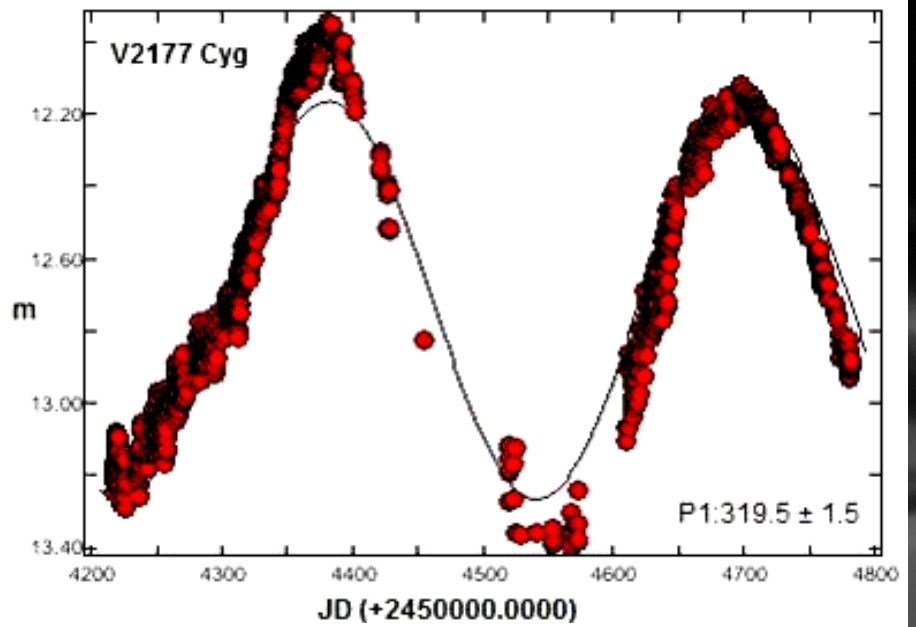
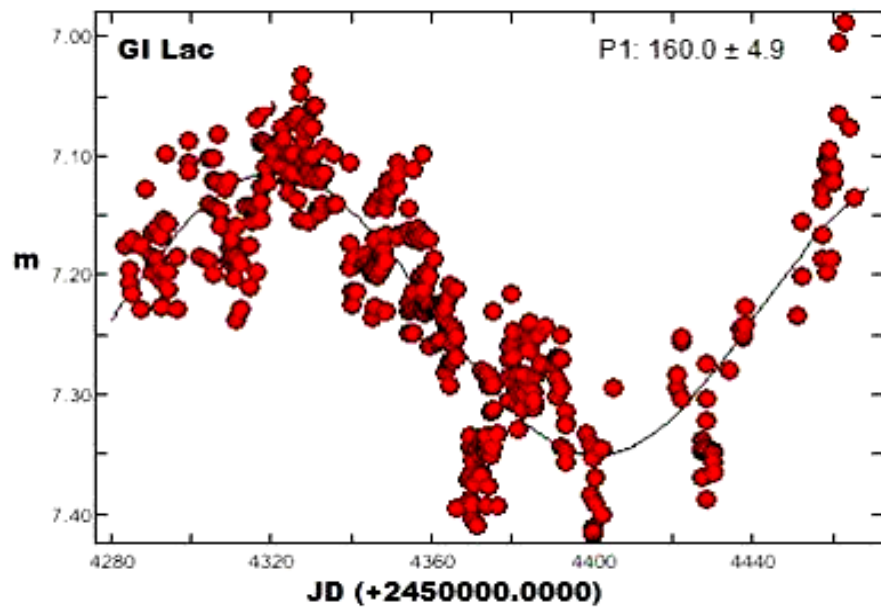
KU And (*Mira*, 9-15m, P:?)



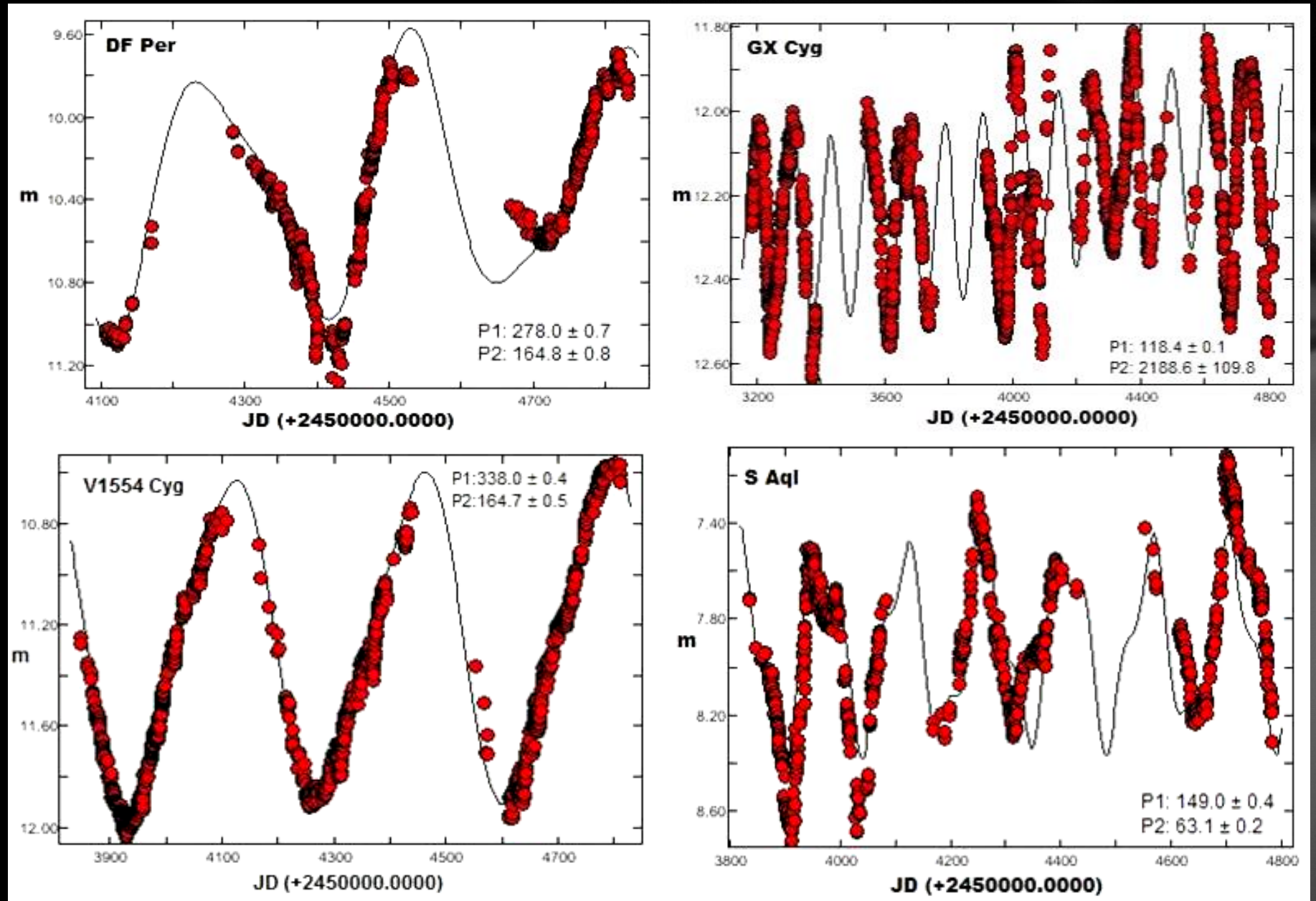
# ROTSE-IIID gözlem sonuçları: SR Türü Değişenler



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# ROTSE-IIID gözlem sonuçları: SR Türü Değişenler

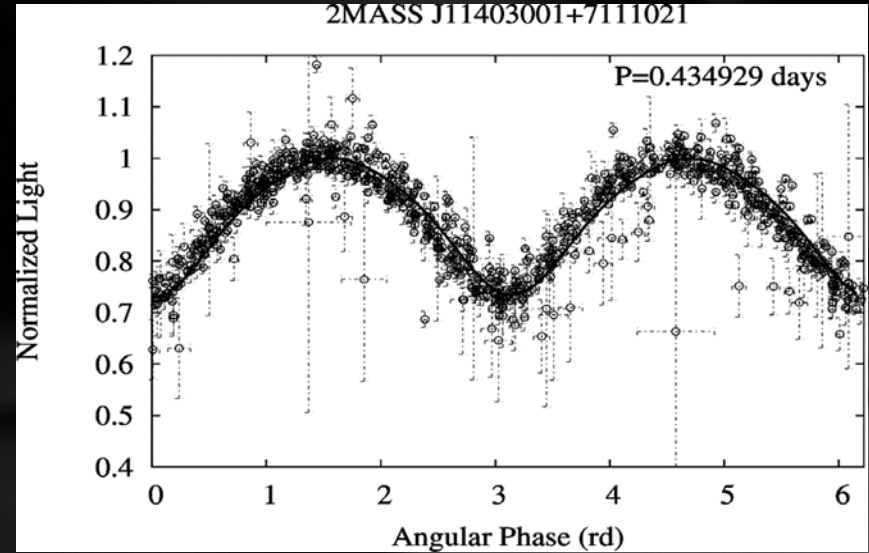
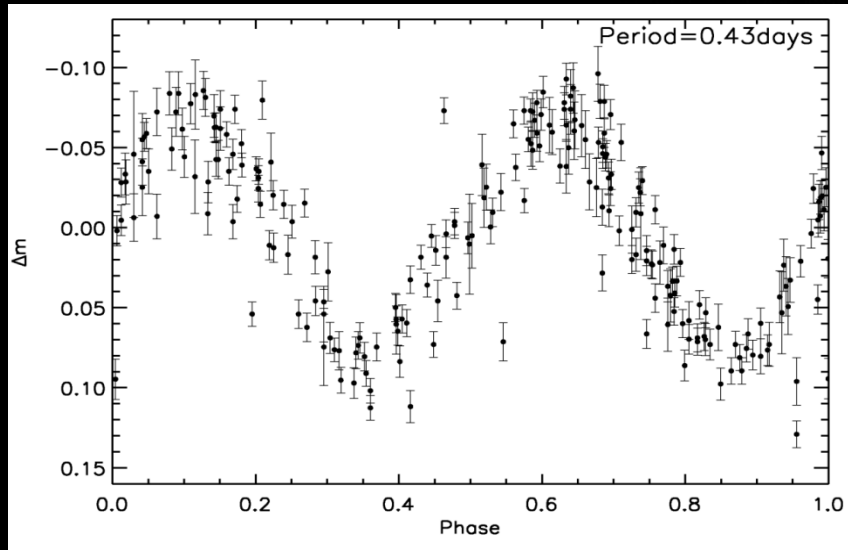


# ROTSE-IIID gözlem sonuçları: Kısa Dönemli Değişenler

2MASSJ11403001+7111021

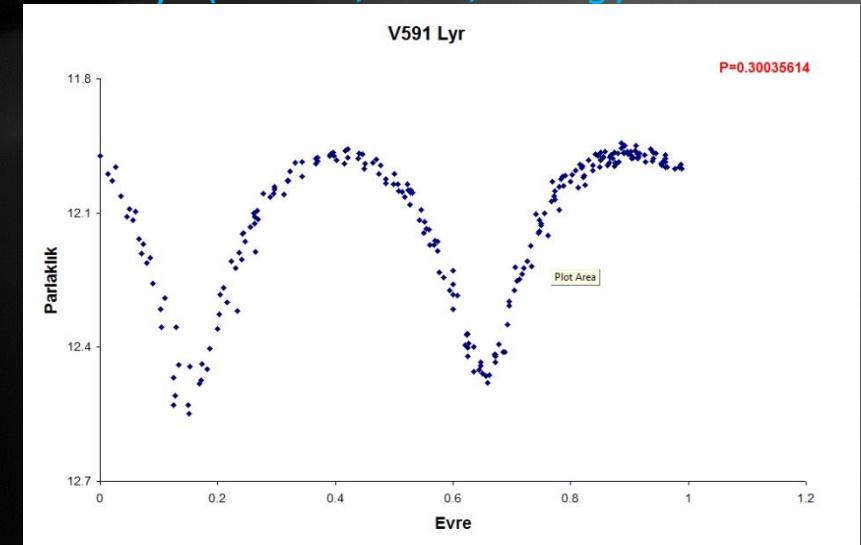
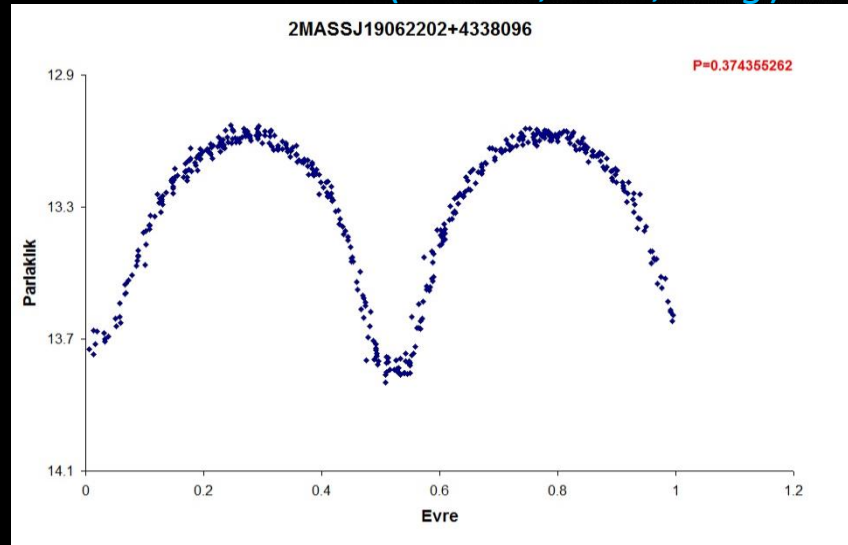
(WUma, 14m, P:?g)

IO Dra (Dsct, 8m, P:?g)



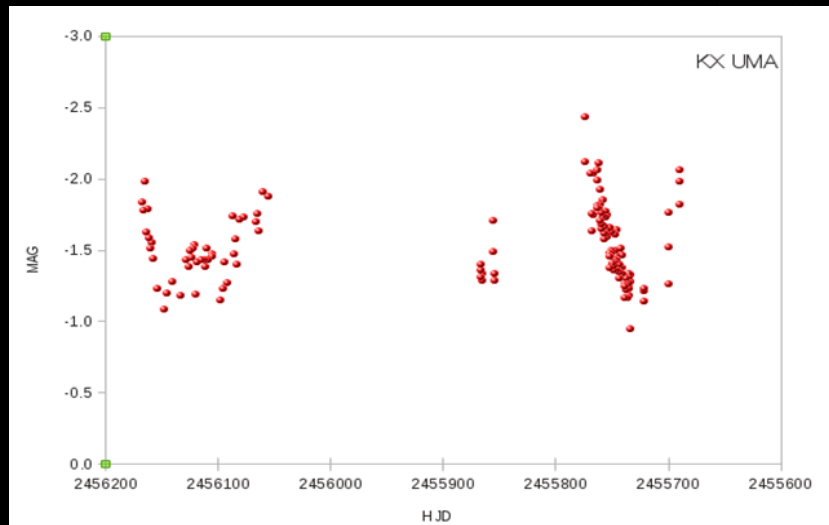
2MASS1906+4338 (WUma, 13m, P:?g)

V591 Lyr (WUma, 12m, P:0.3g)

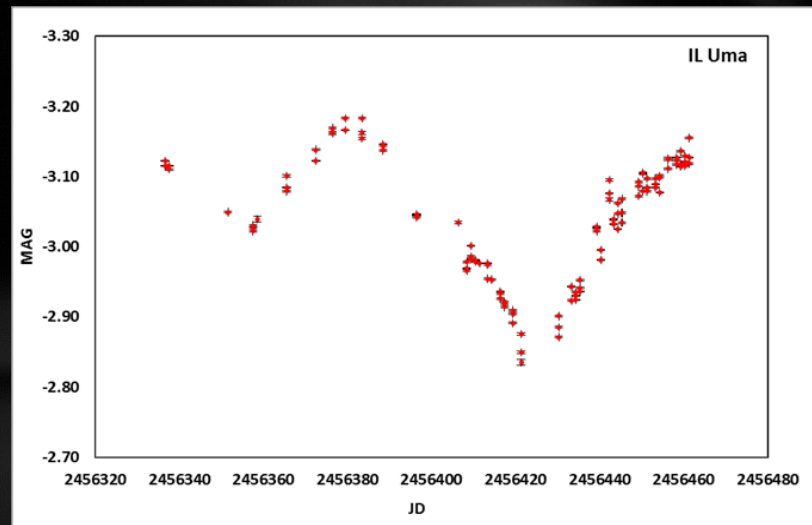


# T60 gözlem sonuçları: Uzun Dönemli Değişenler

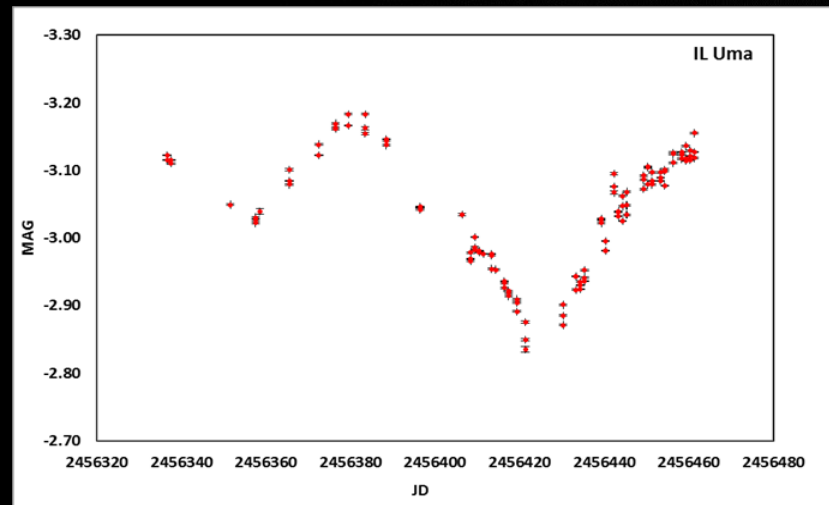
KX Uma (13m, SR)



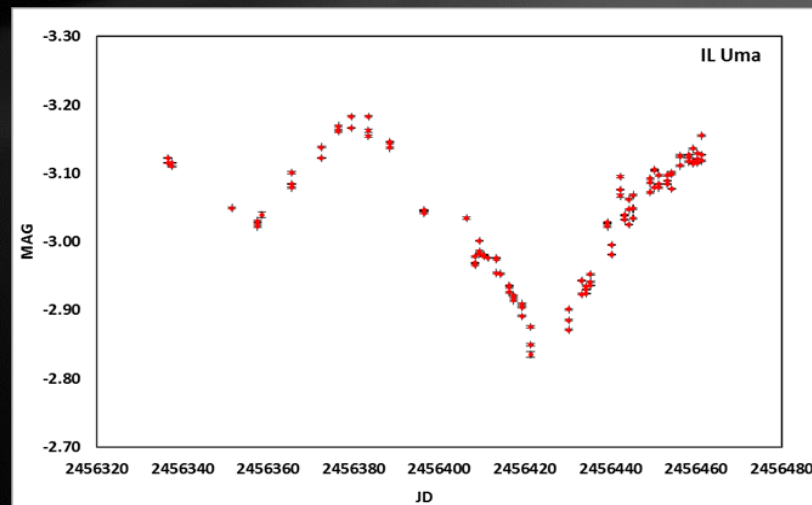
IL Uma (10m, SR, M2)



FM Dra (9m, SR/SARV, M)

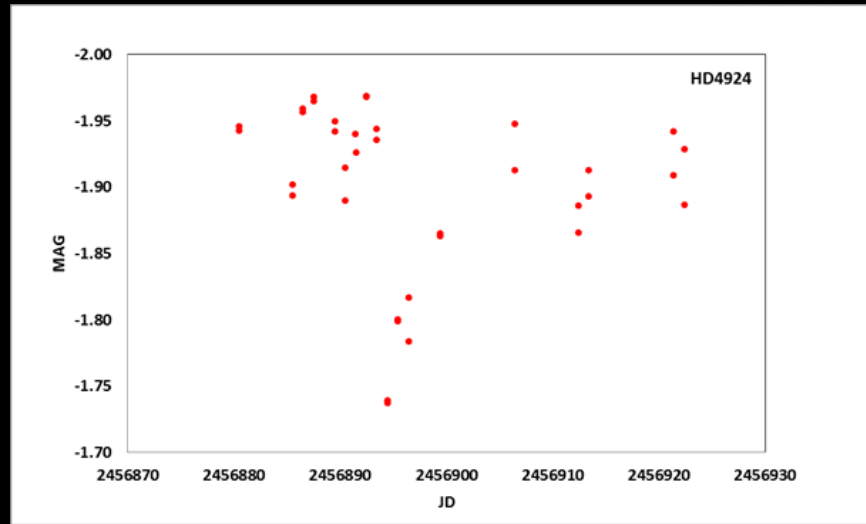


HD3648 (9m, SR, M6)

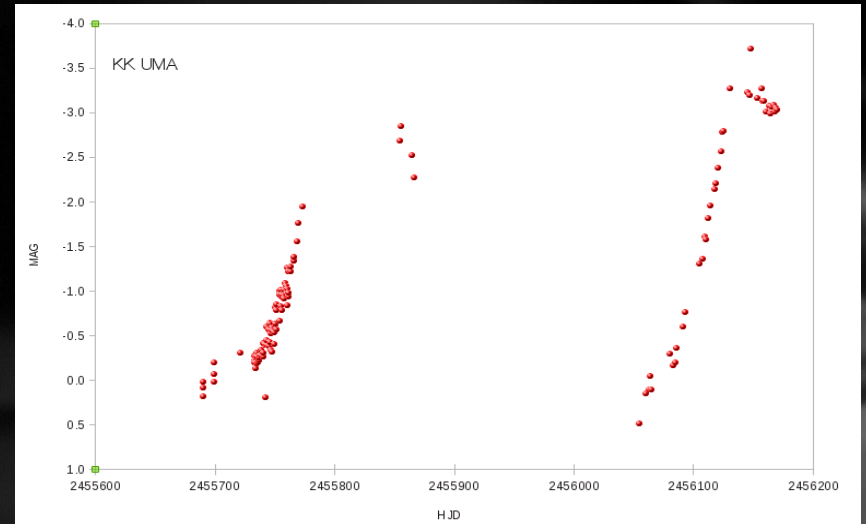


# T60 gözlem sonuçları: Uzun Dönemli Değişenler

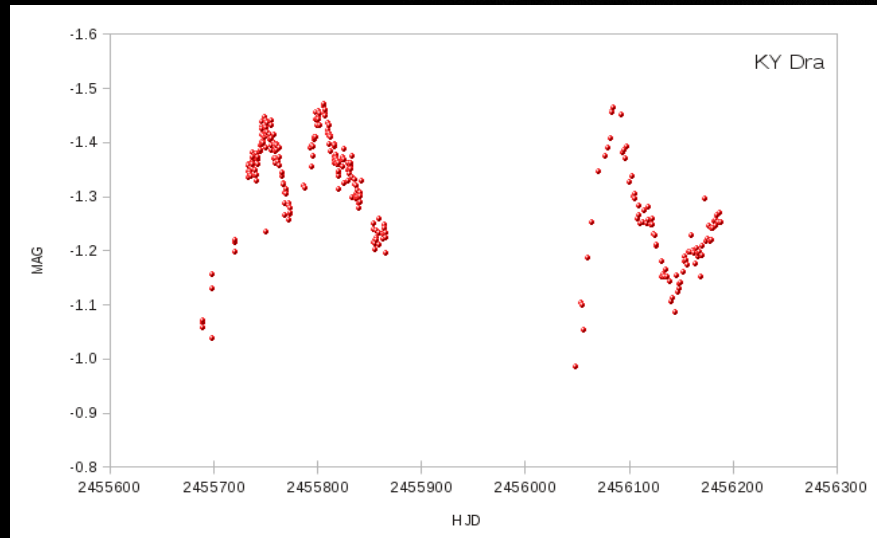
HD4924 (7m, SARV, G5)



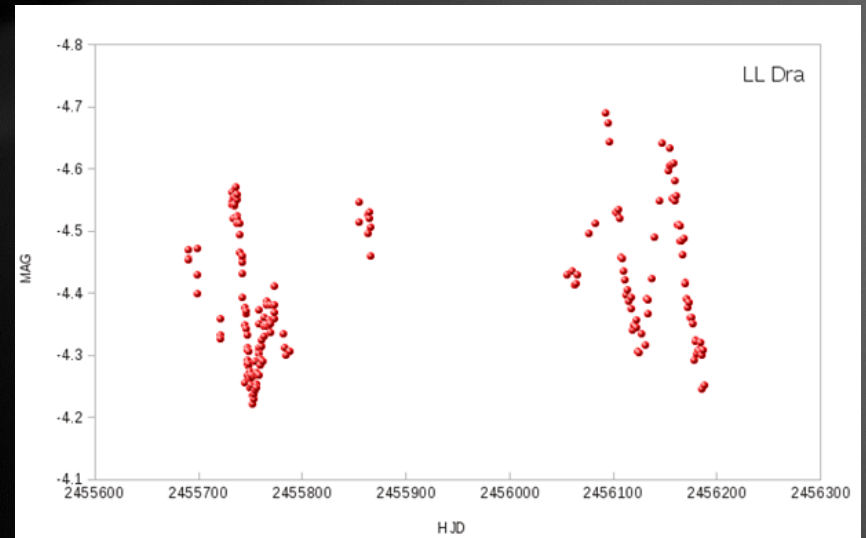
KK Uma (14m, Mira, M)



KY Dra (12m, SR)



LL Dra (9m, SR, M2)





## ROTSE-IIID Gözlemlerinden Elde Edilen Çıktılar:

### + Tezler: 3

- YL: *“Robotik Teleskop Arşivlerinden Farklı Gökcisimlerinin Saptanması”*, Ankara Üniv. 2010.

- YL: *“SR Yıldızlarında Çoklu Periyotlar”*, Atatürk Üniv., 2011.

- YL: *“Fourier Filtreleme Yöntemi ile Rotse-IIId Veri Tabanındaki W UMa Türü Değişen Yıldızların Belirlenmesi”*, Ankara Üniv. 2014.

### + Projeler: 2

- ODTÜ-DOSAP: 2007, *“Kırmızı Yıldızlar ve Zonklama Özellikleri”*

- TBAG-1001: 108T475, *“Çoklu Veri Analizi Yazılımı Geliştirme”*

### + Bildiriler/Posterler: 10

- UAK Bildiri: 8

- Uluslararası Kongre (*Hindistan, İspanya*) Poster: 2

## ROTSE-IIID Gözlemlerinden Elde Edilen Çıktılar:

+ Yayınlar (SCI): 3 + 3

- New Ast.: “*Long-Term Variations and Periods of Mira Stars from ROTSEIIId*”, 2012, 17, 504, (C. Yeşilyaprak, vd.).
- Exp. Ast.: “*A Pipeline for The ROTSEIIId Archival Data*”, 2012, 33, 197, (B.B. Güçsav, vd.)
- PASA: “*A Study on W UMA Type Systems Recognised by the ROTSEIIId*”, 2013, 30, 13, (D. Çoker, vd.)
- PASA: “*Short Period Variables in ROTSEIIId Database: New Periods, Classifications and Geometric Parameters*”, (D. Çoker, vd.) **yayına hazırlanıyor.**
- New Ast.: “*Long-Term Variations and Periods and Multiperiods of SR Stars from ROTSEIIId*”, (C. Yeşilyaprak, vd.) **yayına hazırlanıyor.**
- New Ast.: “*New Variable Stars from ROTSEIIId*”, (C. Yeşilyaprak, vd.) **yayına hazırlanıyor.**