XY LYR

Years: 1991 - 1994

1. Introduction.

XY Lyr is a red variable star of spectra M4-5. This star is classified in GCVS as Lc star, the range of light variations is 5.80 - 6.35. Its position (1950.0) is AR=18^h 36^m 27^s, DEC=39° 37' 24".

2. The observations

I have received the estimations of four GEOS observers. This work covers a period of four years starting from 1991. Some observers have sent to me some estimations of previous years but the number of the estimations is low and I don't insert it in this study.

For merging of the observations I have applied the «alcep method»[1], using 2 days as integration time.

The mean curve of XY Lyr was made using a «Kalman Filter»[2] and 10 iterations.

	91	92	93	94	Tot
BIG	0	0	0	48	48
DMT	122	61	96	78	357
EYR	50	37	35	42	164
FRL	22	45	34	0	101
MAM	36	60	81	37	214
	230	203	246	205	884

3. Analysis of the measures.

In the power spectra of the observations of XY Lyr (see fig.1) some peaks are evident (see table).

One of those periods (C = 84.5 days) was in accord with the results of the study of S. Ferrand for year 1984.

Peaks	Frequency	Period
A	1.6450E-3	607 d.
B	5.4484E-3	183.5
C	1.1839E-2	84.5
D	1.8150E-2	55.1

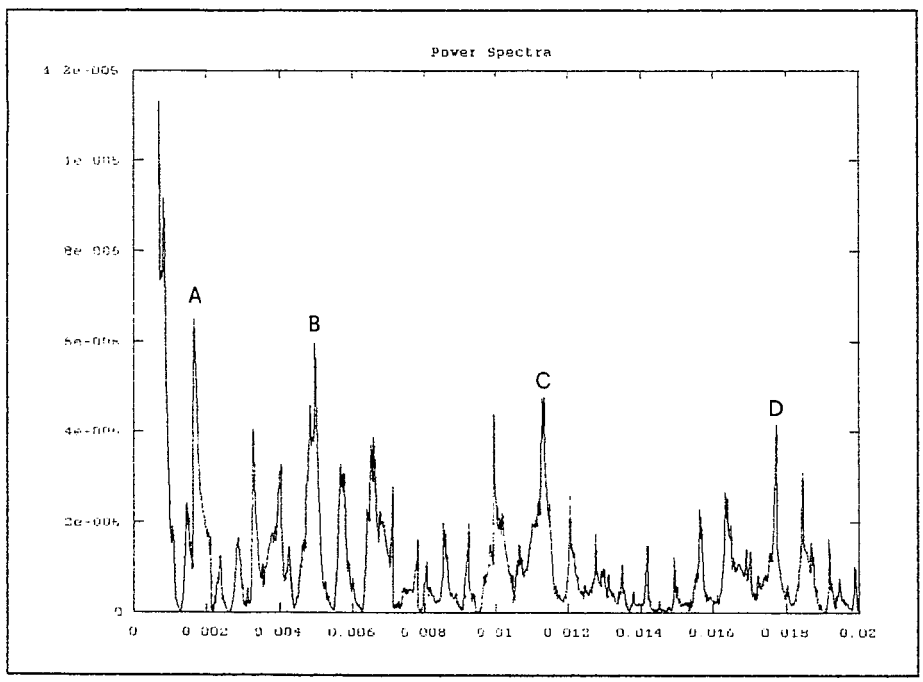
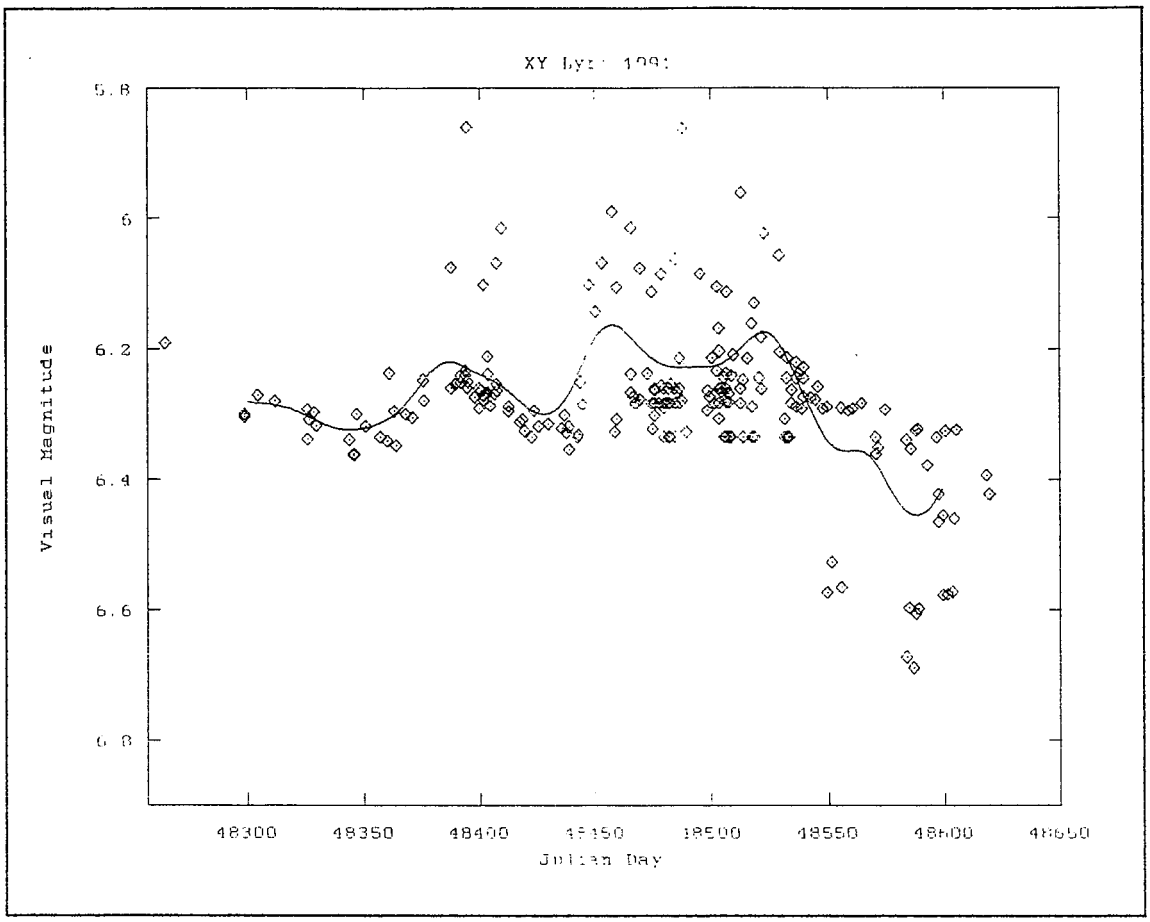
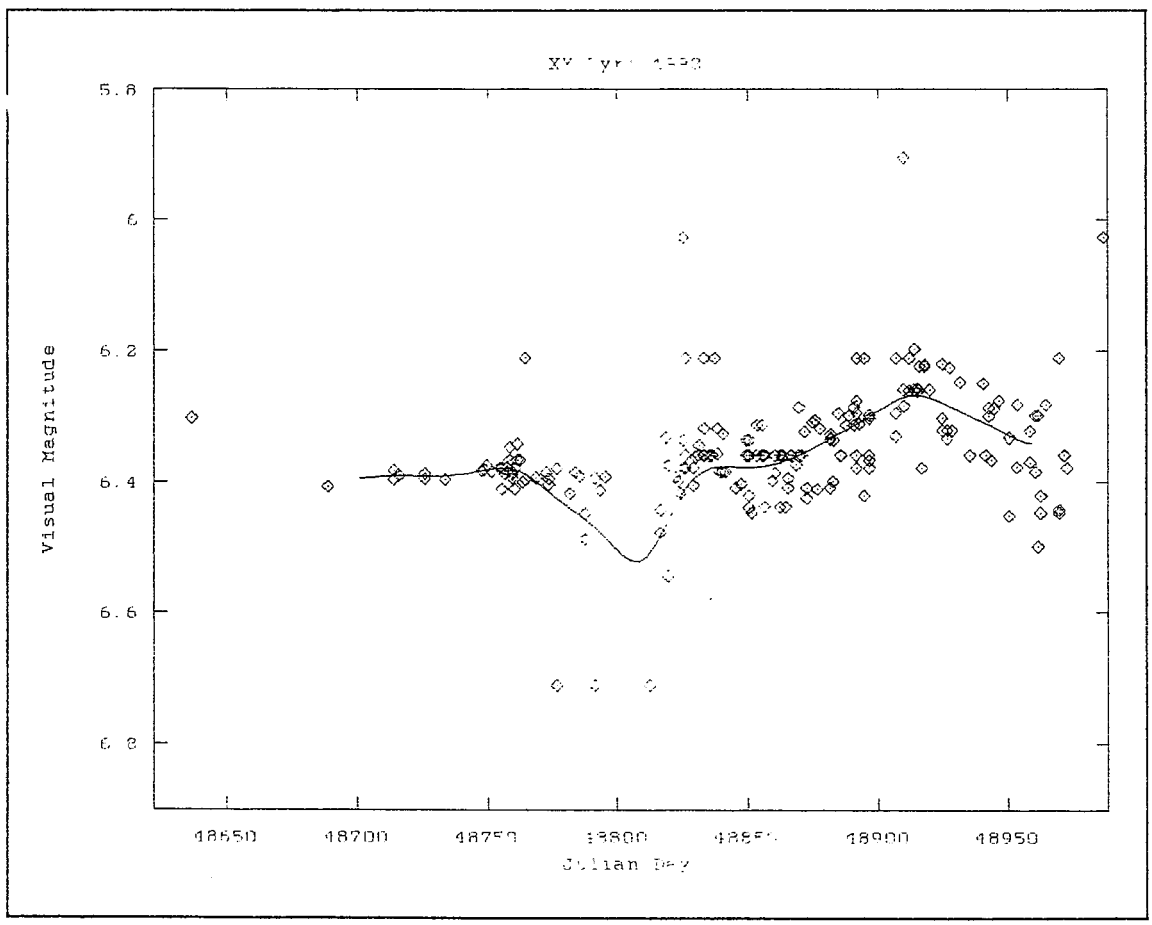
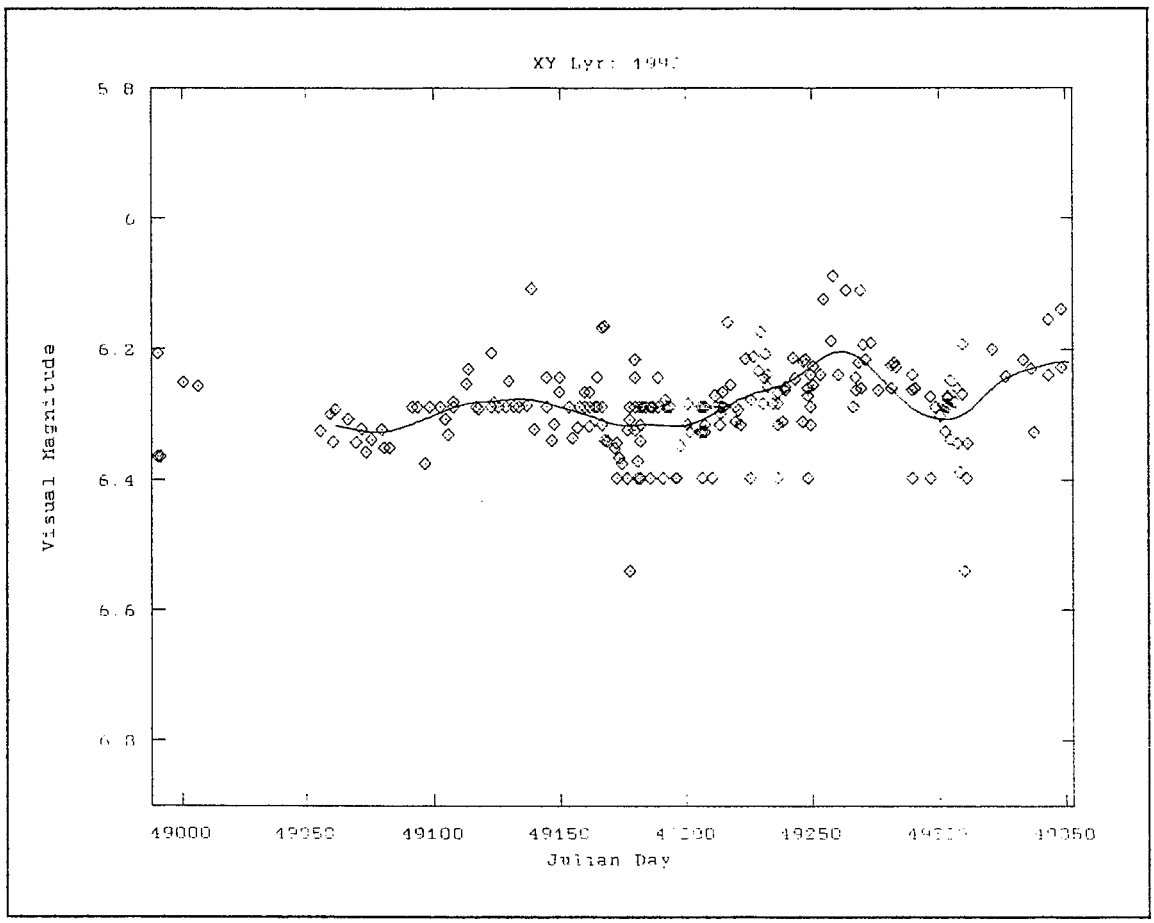
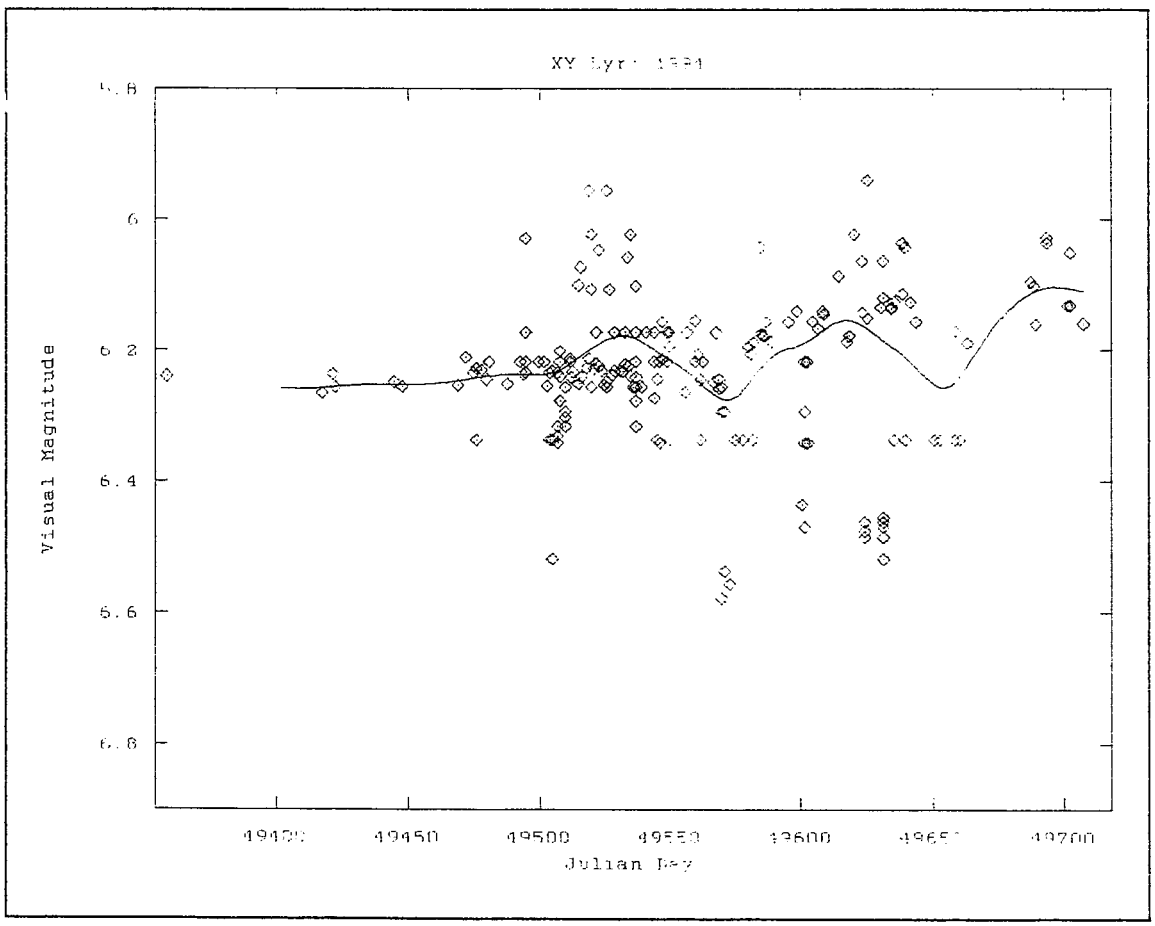


Fig. 1


Visual Magnitude
5.8
6
6.2
6.4
6.6
6.8
48300
48350
48400
48450
48500
48550
48600
48650
Julian Day


Visual Magnitude
5.8
6
6.2
6.4
6.6
6.8
18550
18700
18900
18950
Julian Day


XY Lyr: 1991
5.8
6
6.2
6.4
6.6
6.8
Visual Magnitude
49000
49050
49100
49150
49200
49250
49300
49350
Julian Day


XY Lyr: 1991
5.8
6
6.2
6.4
5.6
6.8
Visual Magnitude
49400
49450
49500
49550
49600
49650
49700
Julian Day

4. Conclusion.

In this work, I examined some GEOS observations of XY Lyr since 1991. One of the periods founded is approximately 84,5 days, in accord with the previous GEOS study (about 100 days). This result has to be confirmed by the analysis of the observations of previous years; therefore, I ask all GEOS members to send me as quickly as possible their estimates since 1985.

Michele BIGI

5. References.

1. For description of the method, see A.Figer, SIGMA N°1, 1981.
2. The software for Kalman Filter is labelled "KALMAN.EXE" and was made by A. Gaspani.
3. P.N. Kholopov et al. , General Catalogue of Variable Stars, Moskow 1985, 4th. Ed.
4. S. Ferrand, " Courbe de lumière de XY Lyr en 1984 " , Note Circulaire GEOS NC 473, 1985.