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° 36′ 27", 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.

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.

<table>
<thead>
<tr>
<th>Peaks</th>
<th>Frequency</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1.6450E-3</td>
<td>607 d.</td>
</tr>
<tr>
<td>B</td>
<td>5.4484E-3</td>
<td>183.5</td>
</tr>
<tr>
<td>C</td>
<td>1.1839E-2</td>
<td>84.5</td>
</tr>
<tr>
<td>D</td>
<td>1.8150E-2</td>
<td>55.1</td>
</tr>
</tbody>
</table>

Fig. 1
4. Conclusion.
In this work, I examined some GEOS observations of XY Lyr since 1991. One of the periods found 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.

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5. References.
1. For description of the method, see A. Figer, SIGMA No. 1, 1981.
2. The software for Kalman Filter is labelled "KALMAN.EXE" and was made by A. Gaspani.