

EXOSAT News on Geminga

Patrizia A. Caraveo and Giovanni F. Bignami
Istituto di Fisica Cosmica del C.N.R.
Via Bassini, 15
20133 Milano ITALY

1E0630+178 was the target of a 64,000 sec EXOSAT observation on March 17-18, 1985. The 1200 photons recorded were folded around the value predicted by previous Einstein '79, '81 and EXOSAT '83 data. The region between 60.20 and 60.35 sec. was searched with independent steps of 0.005 sec, computed according to the relation :
$$\text{step} = (\text{period})^2 / \text{observations length} / \text{number of bins in the light curve}.$$

A reduced χ^2 of 3.85 (9 d.o.f.) was found for 60.285 sec. The data were then divided into five segments and the same search was performed yielding for the third segment a red. χ^2 of 4.33. Moreover, the a posteriori periodogram shows also the presence of harmonics at 30.14 and 15.07 (see figure) wich appear to be even more significant (red. χ^2 of 5.06 and 4.37, respectively) than the effect at 60.28.

