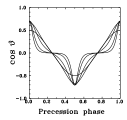

Figure 1: Рисунок высотой 1.5 см.

Her X-1 is one the first X-ray binary pulsar discovered by the eminent UHURU satellite in 1972 (Tananbaum et al. 1972, Giacconi et al. 1973) and since then remains one of the most studied accretion-driven X-ray stellar binaries. The pulsar is an accretion-powered magnetized rotating ($P = 1.24$s) neutron entering an eclipsing X-ray binary with a low-mass ($\sim 2M_{\odot}$) optical companion in a practically circular orbit with a period of 1.7 d. The binary orbit inclination is $i = 85 - 88^{o}$, the total duration of the X-ray eclipse is around 20,000 s. The optical counterpart, HZ Her, first suggested by Liller (1972), provides a classical example of the reflection effect when the strong orbital modulation in optics is due to a powerful illumination of the part of normal star atmosphere facing X-ray source (Bahcall & Bahcall 1972; Cherepashchuk et al. 1972). The amplitude of the reflection effect strongly increases in ultraviolet and according to many optical UBV-photometrical data is $\Delta m_V = 1.45, \Delta m_B = 1.6, \Delta m_U = 2.55$.

Already very first UHURU observations of Her X-1 revealed the presence of a long-term 34.85-d cycle. Its properties have been so interesting that practically all specialized X-ray satellites studied it (among which Copernicus , Ariel-5, Ariel-6 (Davison & Fabian 1974, 1977, Ricketts et al. 1982), HEAO-

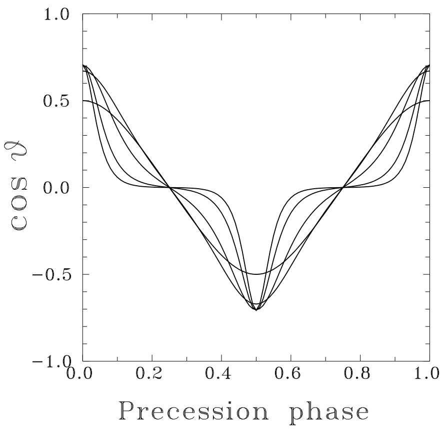

Figure 2: Рисунок в ширину колонки.

1 (Gorecki et al. 1982, Soong et al. 1987), Hakucho and TENMA (Nagase et al. 1984, Ohashi et al. 1984), EXOSAT (Ögelman & Trümper 1988), Ginga (Deeter et al. 1991), Astron (Sheffer et al. 1992), BATSE (Wilson et al. 1994), and RXTE (see RXTE data are shown in Fig. 1).

The gross shape of the X-ray light curve consists of a main-on X-ray state with a mean duration of 7 orbital periods surrounded by two off-states each 4 orbital cycles in duration, and of a secondary short-on state of smaller intensity with a typical duration of ~ 5.5 orbital cycles. The form of the X-ray light curve is asymmetric: in the main-on state the X-ray intensity rapidly increases during 1.5-2 orbital cycles, stays at maximum over 2.5 cycles, and then decreases to a minimum in the successive 3 orbital revolutions.