

Magnetic Design and Light Characteristics of the LLS Undulators, J. JUANHUIX, M. TRAVERIA, LLS-IFAE, Bellaterra - In this paper we present the theoretical design of two undulators for the LLS storage ring, to be built in Barcelona, as they are described in the design report. These undulators, called U73 and U44, will cover the needs of the Spanish scientific community in the soft X-ray range (50-2000 eV). The constraints of the design are given by the LLS storage ring characteristics and the proposed types of experiments foreseen at the LLS. The design of the undulators is based on the use of the 1st, 3rd and 5th harmonics, they are 4.5 m long and the gap can range from 2 to 5 cm. The undulators are made of NdFeB permanent magnet blocks to achieve high peak field and sinusoidal profile. The calculation of the field and optimization of the undulators are made with the codes PMU3d and OPERA-2d. The characteristics of the resulting light are studied with the codes URGENT and SpontLight.