Channeling 2018



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Interaction of Channeled X rays, Coherent Excitation of Fluorescence and Interference Phenomena of Transmitted Radiation at the Exit of Microchannel Plates

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We present here investigation on x-ray fluorescence excited inside hollow microcapillaries which propagates inside them and this phenomenon corresponds to the process of channeling of x-ray fluorescent radiation through a waveguide. The propagation of radiation through microcapillaries is a complex wave process depending by the energy of the radiation and the characteristics of the optical system. We have found experimentally and simulated theoretically that the coherently excited Si L-fluorescence mainly propagates in the direction close to the axis of the microchannels.

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