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New solutions for acceleration and radiation in a new Compton source at MEPH

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Today, a compact monochromatic radiation source in the X-ray range based on inverse Compton scattering is being constructed in MEFH. The source will be based on linear standing wave accelerator of electrons and compact o-shape magnetic channel (accumulator ring). The features of collective effects in the ring are studied. The thresholds of longitudinal microwave instability and transverse mode-coupling instability (TMCI) are calculated and discussed.

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