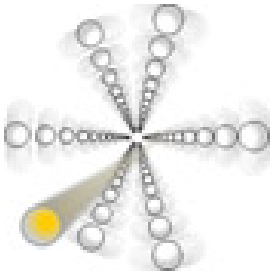

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Parametric X-Ray Radiation Produced by Microbunched Beams

Thursday, 27 September 2012 19:44 (1 minute)

Analytical and numerical results on the coherent parametric X-ray radiation (CXPXR) produced by microbunched beams passing through the crystalline planes of single crystals under certain conditions are obtained. Despite the expectations the preliminary results for ultrarelativistic particles obtained in first approximation under certain assumptions show that the intensity of CXPXR is lower that of coherent x-ray transition radiation (CXTR) of microbunched electron beams because in contrast to XTR, RTR and other types of radiation the spectral distribution of PXR of single particles is very narrow. There is a hope that more accurate calculations of CXPXR taking accurately into account the angular and spectral distributions will give higher intensity of CXPXR.

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