



Séminaire du Laboratoire de l'Accélérateur Linéaire

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Properties of parametric X-ray radiation and its application for beam diagnostics

Parametric X-ray radiation (PXR) is emitted by relativistic charged particle passing through a crystal. The PXR is quasi-monochromatic radiation with energy smoothly tunable in the range from a few to hundreds keV. The nature of the PXR is discussed. The main properties of parametric X-ray radiation are considered, like as angular distribution of the yield, spectral peculiarities, and polarization. Some results of theoretical calculations and experimental research of the PXR properties are presented. Peculiarities of the PXR emitted from bent crystals are noted.

Possibilities for PXR applications like as calibration of X-ray space telescopes by the PXR beam, obtaining of a shadow and phase-contrast images, control of production of positrons in a crystal, are described.

Possibilities of the PXR application for control particle beam parameters are considered.

Salle 101 du LAL - Bât. 200, Orsay

Thé et café seront servis 5 mn avant le séminaire



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