Joint DESY and University of Hamburg Accelerator Physics Seminar

Tuesday, 01.09.2020 16:00

ZOOM video seminar (needs version 5.0+)

High Brightness CW Electron Beams
from a Superconducting RF Photoemission Gun

Irina Petrushina

Stony Brook University, NY, US

Abstract

CW photoinjectors operating at high accelerating gradients promise to revolutionize many areas of science and applications. They can establish the basis for a new generation of monochromatic X-ray free electron lasers, high brightness hadron beams, or a new generation of microchip production. In this talk we report on the record-performing superconducting RF electron gun with a CsK_2Sb photocathode. The gun is generating high charge electron bunches (up to 10 nC/bunch) and low transverse emittances, while operating for months with a single photocathode. This achievement opens a new era in generating high-power beams with a very high average brightness.

W.Hillert, (Univ. HH), I.Agapov (MPY) and M.Vogt (MFL).

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