



Contribution ID: 122

Type: Oral presentation using Zoom

Power Incident on the ILC helical undulator vacuum chamber

Wednesday, 27 October 2021 21:30 (30 minutes)

In the international linear collider (ILC), a high-intense electron beam passes through a helical undulator to produce a multi-MeV circularly polarized photon beam before it is directed to the interaction point (IP). The photon beam hits a thin rotating target to produce electron positron pairs. A maximum active undulator length of 231 m is foreseen to be appropriate for the ILC 250 GeV center-of-mass energy. Since the photon produced by the undulator is created with an opening angle, some of these photons will strike the superconducting undulator wall. Therefore, photon masks must be placed along the undulator line to keep the power deposited into the undulator walls at an acceptable level (1 W/m). This talk will discuss the power deposited into the undulator walls. Masks inserted in the undulator line are discussed assuming ideal and realistic undulator fields; as material copper or tungsten are considered in detail.

1st preferred time slot for your oral presentation

19:00-21:00 JST (12:00-14:00 CEST, 6:00-8:00 EDT, 3:00-5:00 PDT)

2nd preferred time slot for your oral presentation

15:30-17:30 JST (8:30-10:30 CEST, 2:30-4:30 EDT, 23:30-1:30 PDT)

Primary author: ALHARBI, Khaled (Hamburg University, DESY, KACST)

Presenter: ALHARBI, Khaled (Hamburg University, DESY, KACST)

Session Classification: R-1: Machine - Sources

Track Classification: Parallel sessions: Accelerators: Session R: Machine - Sources