

A case study of a high heat load equipment at Australian Synchrotron

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Abstract

A case study of front end thermal absorbers was presented in this paper. In this study, power density distribution of a superconducting wiggler photon beam was calculated using synchrotron radiation workshop (SRW) and was input to Ansys workbench as boundary condition using a customized script written in Ansys. The corrugated surfaces can spread the heat flux on the peaks as well as grooves downstream. As a result, it was found that the absorber with corrugated surfaces had a better performance than the absorber with flat surfaces. Different absorber materials (OFHC and GlidCop copper) were also evaluated in this study.