

Simulation of high heat load components of front end at SSRF

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At SSRF there are three types of front end, called bending magnet, undulator, and wiggler front end, respectively. We have analyzed the high heat load components of insertion device front end by FEA according to different heat load and mechanical structure. In this document simulations of front end components, such as fixed mask and photon shutter, are reported. All results were calculated by ANSYS software. The maximum thermal stress is less than 400MPa when the storage ring shifts among the range of ± 0.5 mrad in horizontal direction and ± 0.18 mrad in vertical direction, respectively.