SR workshop (R. Bartolini)

The goal of the workshop is to design synchrotron light source based on a DBA lattice. The beam energy is 3.0 GeV.

From the initial DBA cell from P. J. Bryant (24 cells)

• ensure straight section are at least 3.0 m long

• complete matching (e,g betax = 6 m betay = 2m in SS, check tunes)

• play with optics to reduce the emittance (break the achromatic condition)

• compute critical frequency of bending, energy loss, total power radiated

• Install IDs to reach 5 keV

• compute tuning range, bandwidth, energy loss per turn, total power emitted by the IDs, brilliance, tuning curves

• compute the RF power needed for 300 mA

• how many SCW can the RF withstand?

• impact of small V gap of ids on the BSC