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## Arc vacuum system and synchrotron radiation

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An analysis of the synchrotron radiation spectra and photon power and flux distribution along one sample sector of 140 m length representative of the FCC-ee arcs has been carried out using the raytracing monte-carlo code SYNRAD+. The results of these simulations have then been used to derive the photon stimulated desorption (PSD) for different conditioning times, for the Z-pole machine. The pumping efficiency of several pumping configurations has also been carried out, using the raytracing monte-carlo code Molflow+. The beneficial effect of NEG-coating in reducing the PSD gas load is evident, allowing a dramatic reduction of the number of lumped pumps needed to reach a sufficiently low pressure in a short time. A list of prototypes and tests required in order to validate the proposed configuration is given.

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