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Mechanical evaluation and CAD modeling for MAX 4^U: MAXIV storage ring upgrade

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MAX 4U is an upgrade project of the MAX IV 3 GeV storage ring, to be realized by the early 2030's in Lund, Sweden. The goal of the upgrade is to reduce the horizontal electron beam emittance to below 100 pm.rad. A new magnet lattice will be used to achieve this goal. Many different scenarios for different lattices are evaluated from the mechanical engineering aspect to serve as input for the final lattice choice. In this paper, we describe the method used to build CAD-models for the evaluation work and how the components are affected, both mechanical and thermal loads on the vacuum system from the new synchrotron radiation power.

Footnotes

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