

Design and Operation of the MAX-IV Vacuum System based on NEG Coating

Thursday 3 February 2022 16:15 (1 hour)

The 3 GeV electron storage ring of the MAX IV laboratory is the first fourth generation light source to be built. The storage ring vacuum system has the inner surface of almost all the vacuum chambers along its circumference coated with non-evaporable getter (NEG) thin film. The coating provides a low dynamic outgassing rate and pumping of active gases. As the NEG coating was applied on an unprecedented scale, there were doubts concerning the storage ring performance. Fast conditioning of the vacuum system and over six years of reliable accelerator operation have demonstrated that the chosen design proved to be good and does not impose limits on the operation. The vacuum system performance is comparable with or better than that of other similar facilities around the world, where conventional designs were implemented. Observed pressure levels are low, and the electron beam lifetime is long and not limited by residual gas density. The design and operation status of the vacuum system will be presented.

Presenter: AL DMOUR, Eshraq (MAXIV)