Joint DESY and University of Hamburg Accelerator Physics Seminar

Tuesday, 30.06.2020 16:00

ZOOM video seminar (needs version 5.0+)

Structure and Composition of Nb Surfaces Relevant for RF Cavities Investigated at the DESY NanoLab

Andreas Stierle

DESY/UNI-HH

Abstract

The surface and near surface structure and composition, as well as defects play a decisive role for the performance of Nb in applications for superconducting RF cavities. In my presentation I will give an overview of our recent research addressing the evolution of oxygen diffusion profiles under cavity relevant preparation conditions. I will present our results on the interaction of nitrogen with Nb surfaces in relation to previous so-called infusion studies, reporting nitrogen uptake by Niobium. Further on, I will discuss recent results on the role of grain boundaries in technical cavity material for the formation of Nb carbides, which may be detrimental for the superconducting behavior for Nb.

W.Hillert, (Univ. HH), I.Agapov (MPY) and M.Vogt (MFL).

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