



PAUL SCHERRER INSTITUT

PHOTON SCIENCE - SEMINAR

SLS 2.0

Andreas Streun

PSI, Villigen

DATE: Friday, 27 February 2015
Coffee: 11:00 h
SEMINAR: 11:15 h
PLACE: WBGB/019

Abstract:

Recent progress in storage ring design, pioneered by MAX-IV, allows the horizontal emittance to be reduced by 1-2 orders of magnitude. This forces all laboratories, including PSI, to consider upgrade options. An upgrade of the SLS could result in about a factor 30 increase of brightness and coherent fraction.

This presentation will explain, how low emittance can be achieved, and present a draft design for a new storage ring in the existing tunnel, maintaining the beam line source points. Since SLS is relatively compact to other machines, and since emittance scales inversely with the third power of ring size, a new lattice concept had to be developed to realize low emittance in limited circumference. This design is based on high field bending magnets, which may also be used as hard X-ray sources. A conceptual design report is planned for end of 2016. A draft schedule will be presented.

Since several features of the machine depend on the requirements from the experiments, some questions will be prepared to stimulate a discussion on priorities and possible scenarios.

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