

# **Sub-picosecond Hard X-Ray Pulses from the SLS Storage Ring**

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We propose to develop a facility for sub-picosecond hard X-ray pulses based on the electron-beam slicing method demonstrated at the ALS, Berkeley<sup>[1]</sup>. The modulator and the radiator should be placed in one long straight section of the SLS storage ring, providing the smallest temporal stretching of the electron bunch slice and thus the shortest x-ray pulses (<100 fs). As a radiator, an in-vacuum undulator is foreseen with a period length of 17 mm, covering the photon range from 5 keV to 17 keV.

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<sup>[1]</sup> R. W. Schoenlein, S. Chattopadhyay, H.H Chong, T. E. Glover, P. A. Heimann, C. V. Shank, A. A. Zhotolents, M. S. Zolotorev, SCIENCE 287, (200), 2237