

SP6: Studies on beam dynamics of a superconducting damping wiggler in the ANKA storage ring in low-alpha mode

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In a collaboration between CERN and KIT a prototype of a superconducting damping wiggler for the CLIC damping rings has been installed at the ANKA synchrotron light source. The wiggler was designed and manufactured by the Budker Institute of Nuclear Physics, Novosibirsk, Russia. To investigate the wiggler's influence on the beam dynamics in the presence of collective effects ANKA's low-alpha short bunch operation mode will serve as a model system. Hence we need a model of the ring in low-alpha mode as well as good simulations of the wiggler in the ring.

This poster has a focus on mainly two objectives. The first one is the current state of the low-alpha optics simulations of ANKA in a wiggler supporting model. The second one is the simulation of the 3 T damping wiggler in comparison to first measurement results for the normal operation mode with longer bunches and higher energies.

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