# Implementation and Collective Effects during Negative Momentum Compaction Operation at KARA

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For future low-emittance synchrotron light sources new operation modes are of interest. One such mode uses a negative momentum compaction factor for the possibility of an increased dynamic aperture. Therefore operation with such an optics has been implemented and is under investigation at the Karlsruhe Research Accelerator(KARA). Using a variety of high-performance beam diagnostics systems various studies of collective effects, such as the current dependent bunch length and the equivalent of the micro-bunching instability, have been performed.

This contribution will present the implementation and first results on the studies of collective effects in the negative momentum compaction factor regime at KARA.