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Observations of Effects on Beam Dynamics at Negative Momentum Compaction Factors

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For the development of future synchrotron light sources new operation modes often have to be considered. One such mode is the operation with a negative momentum compaction factor to provide the possibility of increased dynamic aperture. For successful application in future light sources, the influence of this mode has to be investigated. At the KIT storage ring KARA (Karlsruhe Research Accelerator), operation with negative momentum compaction has been implemented and the dynamics can now be investigated. Using a variety of high-performance beam diagnostics devices it is possible to observe the beam dynamics under negative momentum compaction conditions. This contribution presents different aspects of the results of these investigations in the longitudinal and transversal plane.

Summary

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