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TRIBs simulations for SLS 2.0

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The concept of Transverse Resonance Island Buckets (TRIBs) has recently gained attention in the storage ring light source community, and has found usage to, e.g., serve timing users and can enable fast polarity switching of the light in undulators.

This contribution introduces two options for creating TRIBs in SLS 2.0 using either 3Qx or 4Qx resonances. Options for control of the islands using sextupoles and octupoles in SLS 2.0 are evaluated. The optics and equilibrium emittance within the islands are calculated and checked using tracking simulations. Furthermore, the diffusion of particles from the islands due to radiative effects and Touschek scattering is discussed.

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Footnotes

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Yes

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