aac 24 ADVANCED ACCELERATOR CONCEPTS

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Contribution ID: **78**   Type: **not specified**

Applications of arbitrary correlation generation using transverse wigglers

Thursday, 25 July 2024 16:00 (24 minutes)

Recently, a new method was proposed that uses transverse wigglers to generate arbitrary correlation in phase space. Each wiggler imparts a sinusoidal modulation with a designed amplitude, period, and phase, which can serve as a basis for approximating the desired correlation. While correlation control includes the majority of existing beam manipulations, it has mostly been limited to relatively simple correlations. Since the new method can handle much more complex correlations, it could enhance the performance of existing methods and enable new opportunities. In this talk, I will present several applications of 2D correlation generation using transverse wigglers.

Working group

WG5 : Beam sources, monitoring and control

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Session Classification: WG5