



Contribution ID: 1868 Contribution code: MOPA055

Type: **Poster Presentation**

Multibunch Instabilities with Stepped Airbag Bunches

Monday, 8 May 2023 16:30 (2 hours)

Transverse multibunch instabilities are of significant interest in accelerators with strong wakes and large bunch trains. In such cases, wakes that do not damp sufficiently from bunch to bunch can drive instability along the entire bunch train. Simulations are useful for understanding such instabilities, but the multiscale nature of the system and numerical noise can make results uncertain. A linearized multibunch model will be applied to study multibunch instabilities, and potential applications for the future electron ion collider project will be explored.

Funding Agency

Work partially supported by the US Department of Energy, Office of Science, High Energy Physics under Cooperative Agreement award number DE-SC0018362 and Michigan State University

Footnotes

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Yes

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Session Classification: Monday Poster Session

Track Classification: MC1: Colliders and other Particle Physics Accelerators: MC1.A19: Electron-Hadron Colliders