

# ACCELERATOR SEMINAR

**Sergei Nagaitsev**

Fermilab/UChicago

**Thursday, 24. October 2019 at 1 pm**

**SB1 Hörsaal**

Planckstraße 1, 64291 Darmstadt

## **Accelerator Physics at Fermilab's IOTA ring**

The Integrable Optics Test Accelerator (IOTA) was recently commissioned as part of the Fermilab Accelerator Science and Technology (FAST) facility. The IOTA ring was first commissioned with electrons at 47 MeV, followed by a 5-months run with 100-MeV electrons. The primary goal of the first run was to study beam dynamics in the integrable and near-integrable focusing lattices with special non-linear magnets and with profiled octupoles. The flexibility of the IOTA ring allowed to cover wide range of complimentary studies, such as experiments with a single electron, studies of undulator radiation and to test IOTA with low emittance beams. Over the next year, the proton injector will be constructed in parallel with two physics runs. One run will be focused on non-linear experiments and another will be used for demonstration of Optical Stochastic Cooling. This talk will describe the accelerator science program at IOTA and will high-light the emerging collaboration opportunities.



Coordinator: Vera Chetverkova

Secretary: Larissa Birli

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