

The Beams and Applications Seminar Series

Emittance reduction study for SPEAR3

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**Bldg. 401, Room B-4100
Monday October 1, 1:30 pm**

Host: Michael Borland

We studied the potential of the SPEAR3 storage ring optics and explored lattice options to significantly reduce the emittance. Lattices with emittance down to near 6 nm from the present value of 10 nm have been designed and tested on the machine. Experimental optimization has led to considerable improvement of the injection efficiency and also changes to the design lattice. Experimental characterization of the lattice found good agreement with simulation. Multi-objective optimization with genetic algorithms predicted large gain of dynamic aperture with additional sextupole power supplies. With modest hardware upgrade, the new lattice will be ready for user operation.

For more information visit

http://aps.anl.gov/News/Meetings/Beams_and_Applications_Seminars/

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(mnolasco@aps.anl.gov, 630-252-6159) to arrange for a gate pass.