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BRUCE CARLSTEN, Los Alamos Natl Lab

The concept of phase-space manipulation to reduce a beam's rms emittance was first proposed by Bovet in 1970. The most commonly used manipulation scheme to reduce the rms emittance is emittance compensation, introduced in 1989 and present in virtually all operating electron RF gun sources. Newer schemes include the flat-beam transform and the emittance exchanger, which, together, have been proposed as a technique to partition an electron beam's phase-space volume optimally for future X-ray free-electron lasers. This talk will cover the basics of electron beam phase-space manipulation and partitioning for emittance reduction, including the difference between the beam "slice" emittance and the beam rms emittance, the relation between the beam rms emittance and temperature, thermalization, and two-stage partitioning concepts.