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Nota di contenuto	Welcome address -- Intensity limitations in circular particle accelerators -- Wake fields and impedances -- Bench methods for bean-coupling impedance measurement -- Coherent beam instabilities -- Observation and correction of instabilities in circular accelerators -- Some longitudinal dynamics of bunched beams -- Low energy aspects of circular accelerators -- High current beam transport in linear accelerator structures -- Observation of high current effects in high energy linear accelerators -- Observations of the beam-beam interaction in Hadron colliders -- Beam-beam effects in electron-positron storage rings -- Coherent beam-beam effects -- Beam-beam phenomena in linear colliders -- Engineering limitations of proton colliders -- Engineering limitations with electrons -- Intrabeam scattering -- Ions and neutralization -- Beam loading in RF cavities -- High-brightness injectors for Hadron colliders -- The next linear collider -- Hadron collider luminosity limitations -- Physics and

technology challenges of $$B\bar B$$ factories.

Sommario/riassunto

This is the proceedings of the fourth school in a series of specialized courses organized by CERN's CAS and the American USPAS. It deals with intensity limitations. The contribution thoroughly edited for this publication fall into the following categories: self and environmental fields - coherent instabilities and their simulation - beam-beam interaction - other multi-particle effects - beam source limitations - engineering limitations. This exposition of the inner working of high-intensity particle beams addresses particle physicistsas well as those that commission new machines. The lecturers were chosenas being at the forefront of latest developments in this field.