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Innovations in the operation of storage rings

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To meet ever increasing user needs, synchrotron radiation laboratories around the world are developing ways to produce photons beams having high brightness, improved stability, and spectral and temporal properties tailored to specific experimenter applications. These improvements are not only a result of advanced storage-ring-system design concepts now being realized in third-generation facilities but are also due to developments in beam and ring lattice modeling, measurement, and control techniques and technologies that make such improvements accessible to older synchrotron radiation laboratories as well. An overview of these innovations and their impact on photon beam quality is presented.