National Synchrotron Light Source II (NSLS-II) Update

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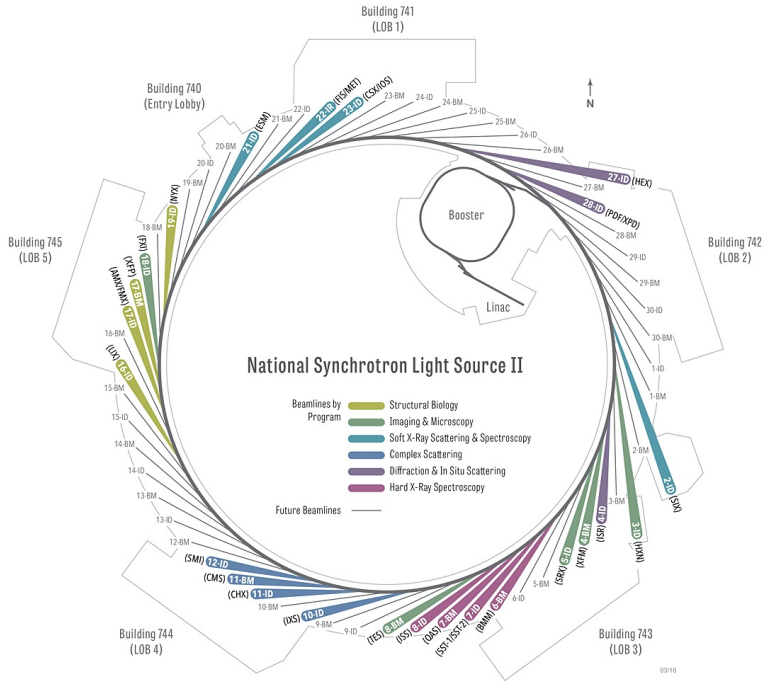
National Synchrotron Light Source II (NSLS-II) is one of the newest 3 GeV storage-ring synchrotron facilities in the world. It is designed and built with a 792 m circumference, 500 mA operating current, and a horizontal emittance of 0.6 nm-rad based on an optimized double-bend achromat lattice. More information can be found at http://www.bnl.gov/ps/. Since the start of its operations in October 2014, NSLS-II has rapidly ramped up its science capabilities and user programs. As of April 2018, NSLS-II operates at 375 mA top-off, and has 26 beamlines in operations and 3 other beamlines under construction (Figure below). In fiscal year 2017, more than 1000 distinct scientists conducted their experiments at NSLS-II. This number is projected to increase to above 1300 in 2018. The vision for NSLS-II is to develop world-leading scientific capabilities and leverage them to enable and conduct a broad range of high-impact, discovery class science and technology programs to address the critical scientific grand challenges in energy security, advanced materials synthesis and manufacturing, environment, and human health. Working with the scientific community, NSLS-II has identified three science priority areas that will drive the research and development activities in the near term at NSLS-II: quantum and complex materials, operando chemistry and structural science, and multiscale structures and functions. In this talk, I will present the current status of our facility and beamline capabilities, and discuss our plans and initiatives to further expand and enhance our science programs at NSLS-II. NSLS-II is a U.S. Department of Energy (DOE) Office of Science User Facility operated for the DOE Office of Science by Brookhaven National Laboratory under Contract No. DE-SC0012704.



NSLS-II current suite of beamlines.