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National synchrotron light source II vacuum system : from design to operation

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National Synchrotron Light Source II (NSLS-II) at Brookhaven is one of the latest double-bend achromat (DBA) synchrotron radiation (SR) facilities constructed. NSLS-II has been in steady operation since late 2014, providing the brightest X-ray beam for SR users. The design of NSLS-II vacuum system, the fabrication of vacuum chambers and other hardware, the installation, the commissioning and the continuing beam conditioning of the vacuum systems will be presented. Problems encountered and lessons learned will be detailed. NSLS-II vacuum system is compared with that of some recent SR facilities, in particular, that of multi-bend achromat (MBA) ones under construction or development at many institutes.

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