

Abstract Submitted
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SURF III: A flexible Synchrotron Radiation Source for Radiometry and Research UWE ARP, CHARLES CLARK, LU DENG, NADIR FARADZHEV, ALEX FARRELL, MITCH FURST, RASHI GARG, STEVEN GRANTHAM, EDWARD HAGLEY, SHANNON HILL, THOMAS LUCATORTO, PING-SHINE SHAW, CHARLES TARRIO, ROBERT VEST, National Institute of Standards and Technology — The calculability of synchrotron radiation (SR) makes electron storage rings wonderful light sources for radiometry. The broadband nature of SR allows coverage of the whole spectral region from the x-ray to the far-infrared. Compact low-energy storage rings like the Synchrotron Ultraviolet Radiation Facility SURF III are perfect sources for radiometric applications, because the output spectrum can be custom-tailored to the user's needs: Low current operations can simulate the solar spectrum, changes to the electron energy can deal with higher-order contributions of spectrometers and monochromators, and manipulation of the source size increases the lifetime or change the radiation density. At multi-user facilities these special operational conditions are generally not possible, since many users have to be satisfied simultaneously. NIST maintains at SURF one of the best SR-based calibration programs in the world: Standard lamp calibrations, detector calibrations, and measurements of optical properties are routinely performed at SURF with great reliability and accuracy. More information about SURF can be found at: <http://physics.nist.gov/surf>

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