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A Microfocus Beamline for Angle-Resolved Photoemission at the SRC T. MILLER, T.-C. CHIANG, Univ. of Illinois Urbana-Champaign, M. BISSEN, M. FISHER, H. HOECHST, S. JANOWSKI, R. REININGER, G. ROGERS, M. SEVERSON, J. BISOGNANO, Univ. of Wisconsin Synchrotron Radiation Center — The development and construction of an angle-resolved photoemission (ARPES) system with a small beam focus is underway at the Synchrotron Radiation Center (SRC) in Stoughton, WI. It is expected that this facility will extend the demonstrated utility of ARPES to samples that are inhomogeneous on a micron scale, as may be commonly encountered in modern solid-state research. This facility is being implemented by modifying a branch line of an existing beamline, the Plane-Grating-Monochromator (PGM-B), and one of the SRC Scienta endstations. To achieve a microfocus, a diverting mirror bypasses the existing refocussing mirror, directing the light towards a final Schwarzschild optic. The final optic provides a 50:1 demagnified image at the sample of the PGM-B exit slit and horizontal apertures, producing an adjustable focus of micron or submicron dimensions. The original PGM-B focus can be restored at the same point on the sample as the microfocus by moving the diverting and Schwarzschild mirrors out of the beam path without breaking vacuum. Provision will be made for selecting into the optical path different Schwarzschild optics optimized for different photon energy ranges. In this talk, the system and progress in its development will be described.

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