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Surface states, skyrmions, and synchrotrons

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Over the past several decades, soft x-ray techniques have grown from esoteric spectroscopies applied largely to probe model systems to an indispensable suite of scattering, spectroscopy, and microscopy tools used to characterize and understand the structure and emergent properties of materials that lie at many frontiers of modern condensed matter physics. I will offer a brief historical perspective on this evolution in the area of angle-resolved photoemission, then describe recent soft x-ray experiments on magnetic skyrmions and related structures, and end with some thoughts about the very bright future of soft x-ray science in general.