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Science case for high-energy photons

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I will present the case for performing experiments with hard X-ray synchrotron radiation. The spectral brightness of existing undulator-based storage rings in the hard X-rays regime is limiting the applications above ~30 keV where the beam coherence becomes small. This results in limitations of the flux available for many experiments. In particular, X-ray imaging could benefit from the availability of intense coherent beams in this energy range but also scattering experiments will gain tremendously when penetration power and a wide range of accessible momentum transfer are required.

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