

Principles and performance of VUV/X-ray light sources

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We review the working principle, the performance and the perspectives of light sources built in the aim of generating VUV/X-ray radiation with laser-like properties (high brilliance, sub-picosecond pulse duration, transverse and longitudinal coherence, good shot-to-shot reproducibility). We will in particular consider the case of synchrotrons and free-electron lasers, and carry out a comparison between free-electron lasers based on self-amplified spontaneous emission and on high-gain harmonic generation.