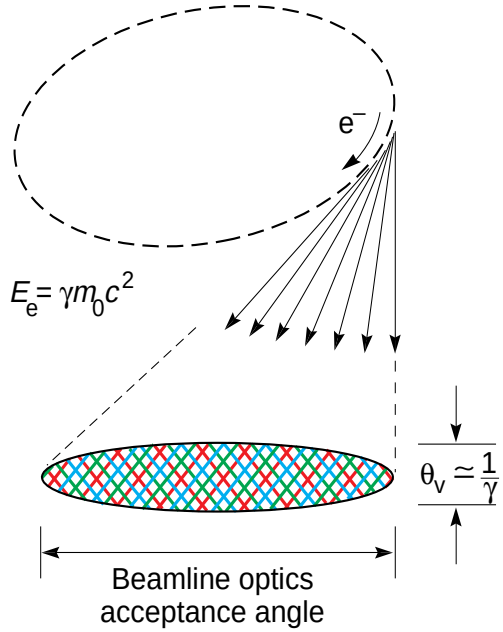
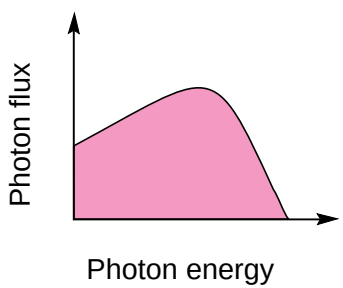
jc/ALSaerial/11-96

ALS Radiation is Produced by Bend Magnets and Undulators

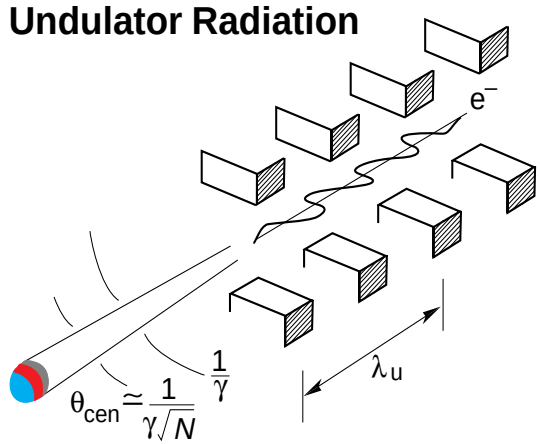
ALS

Bend-Magnet Radiation





Undulator Radiation

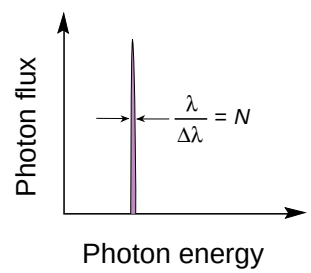


$$\lambda_x = \frac{\lambda_u}{2\gamma^2}\left(1 + \frac{K^2}{2} + \gamma^2\theta^2\right)$$

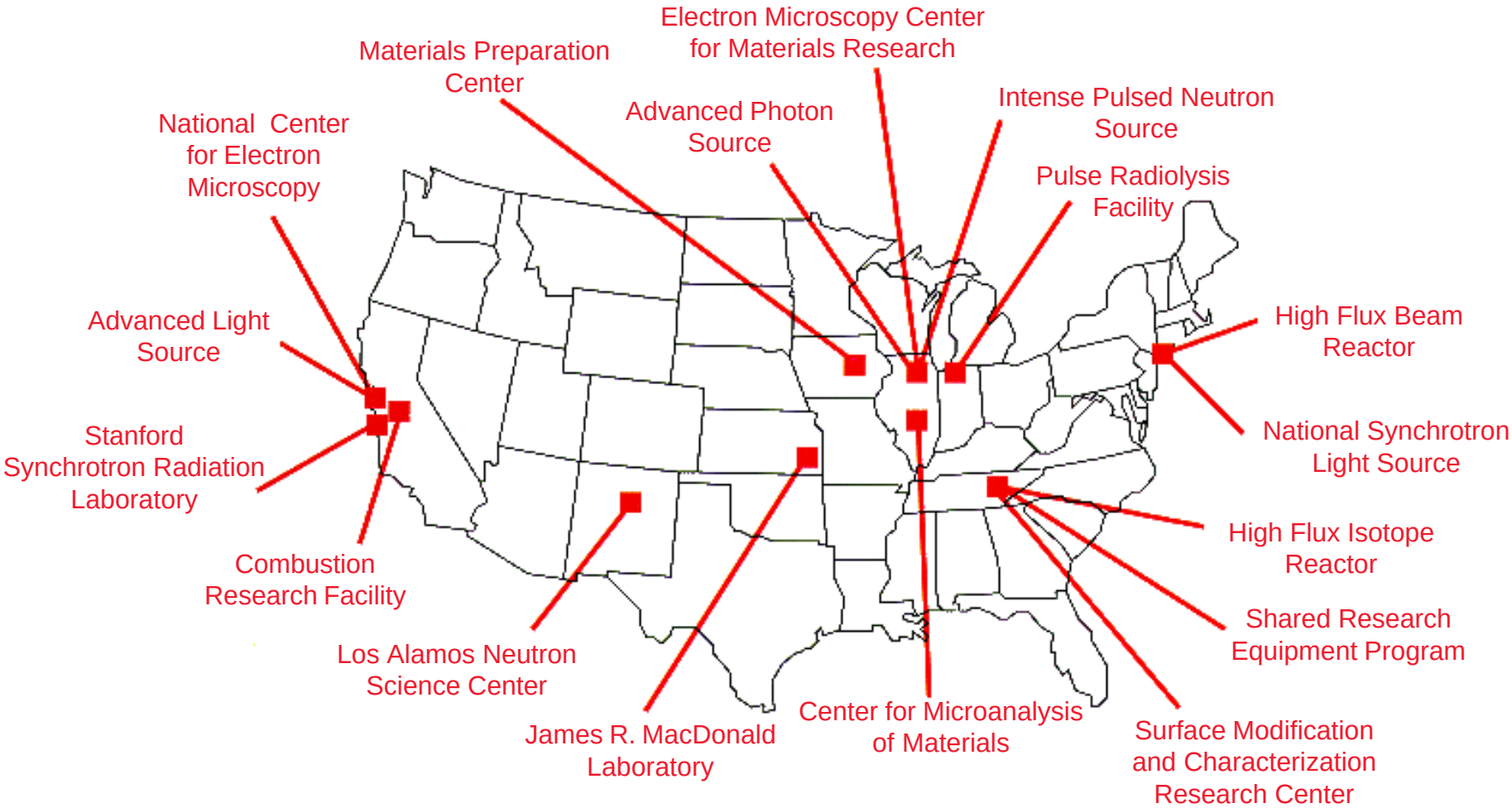
In the central radiation cone:

$$\frac{\Delta\omega}{\omega} \simeq \frac{1}{N}$$

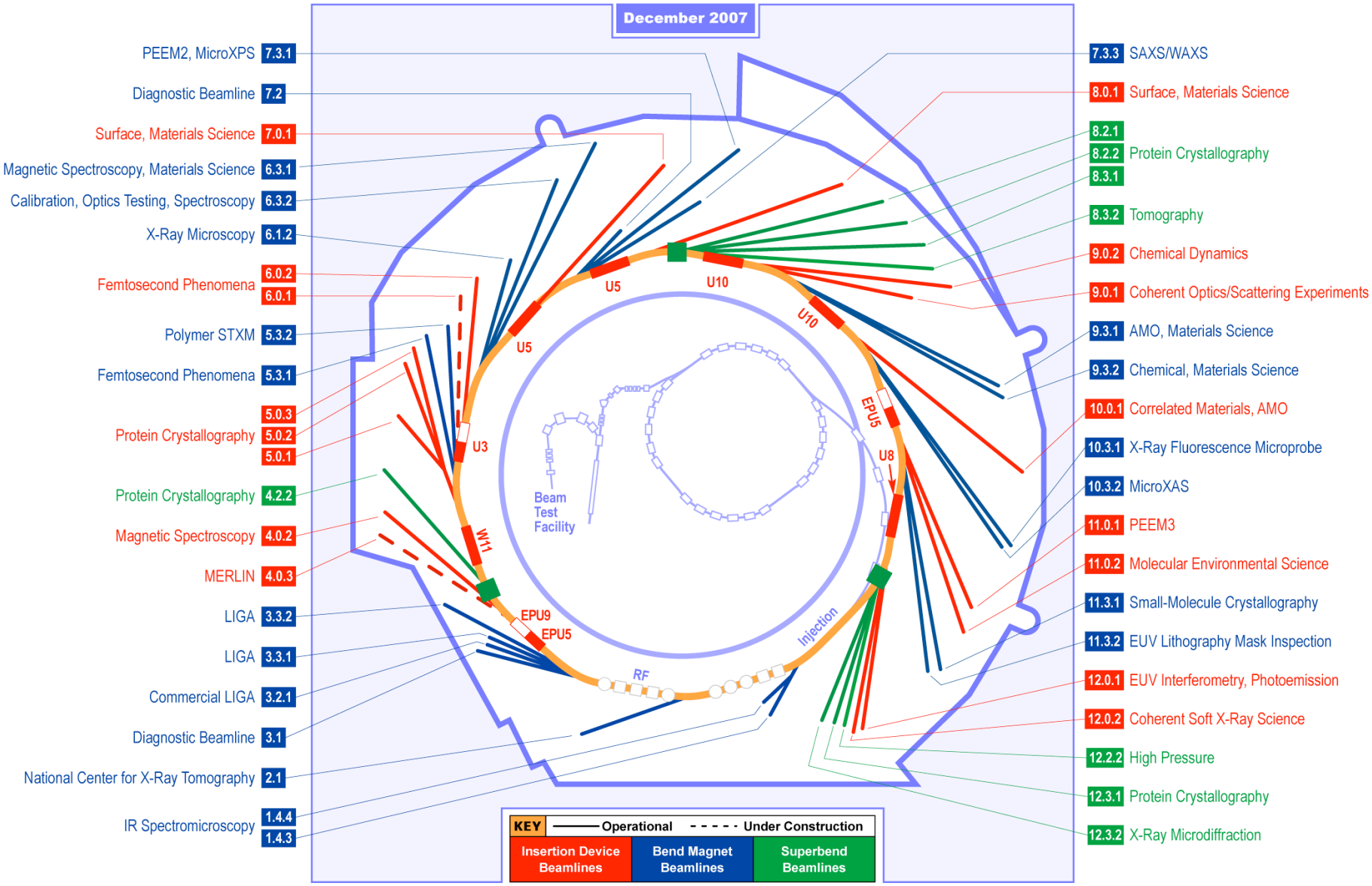
$$\theta_{cen} \simeq \frac{1}{\gamma\sqrt{N}}$$



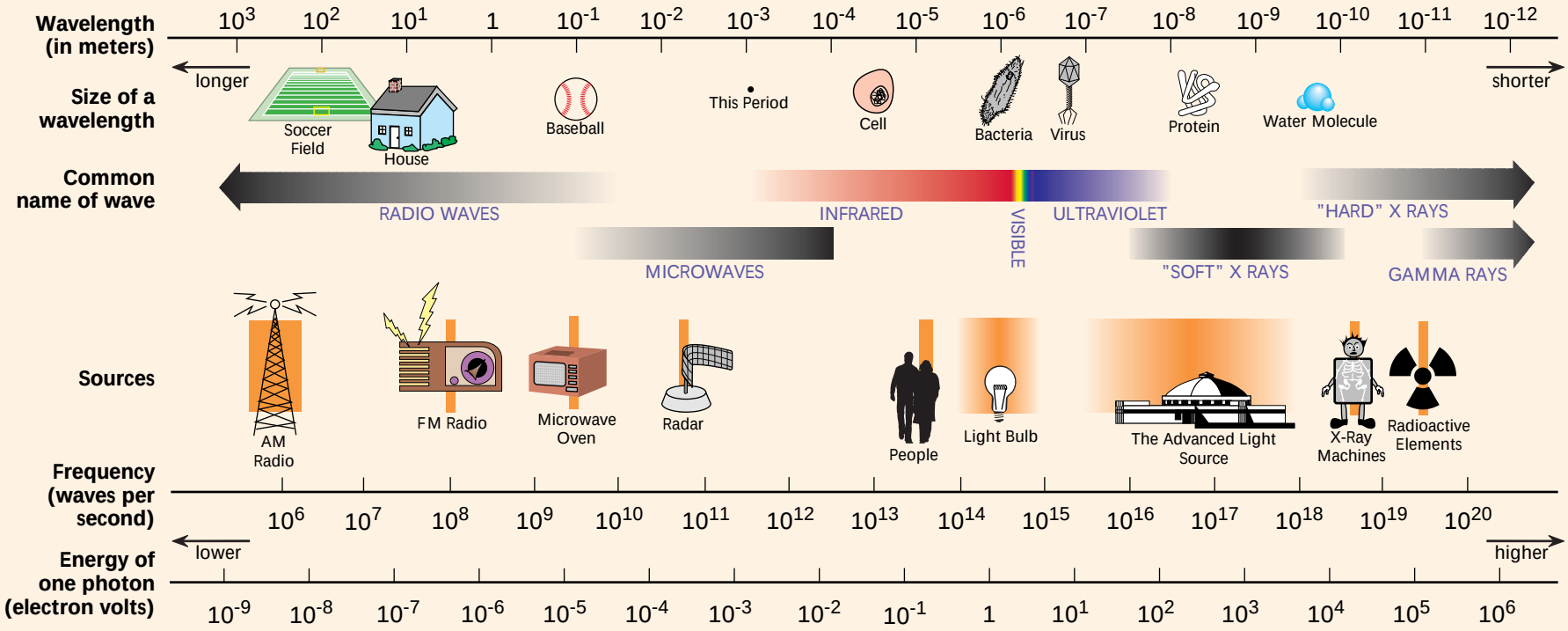
Basic Energy Sciences User Facilities



Beamlines at the ALS 2007



THE ELECTROMAGNETIC SPECTRUM



The ALS mostly produces ultraviolet light and soft x rays which have just the right energies to explore many of the atomic properties of matter.

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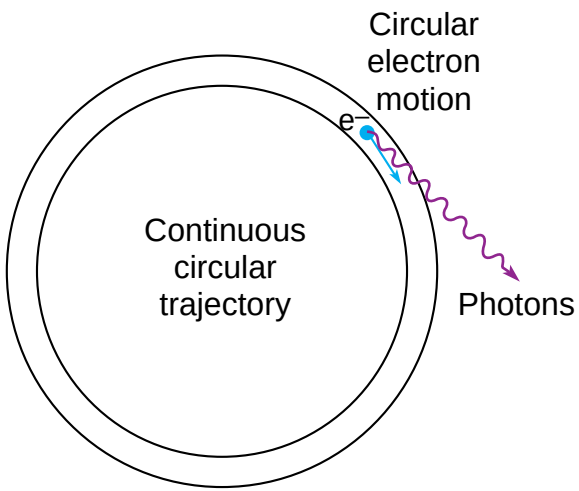
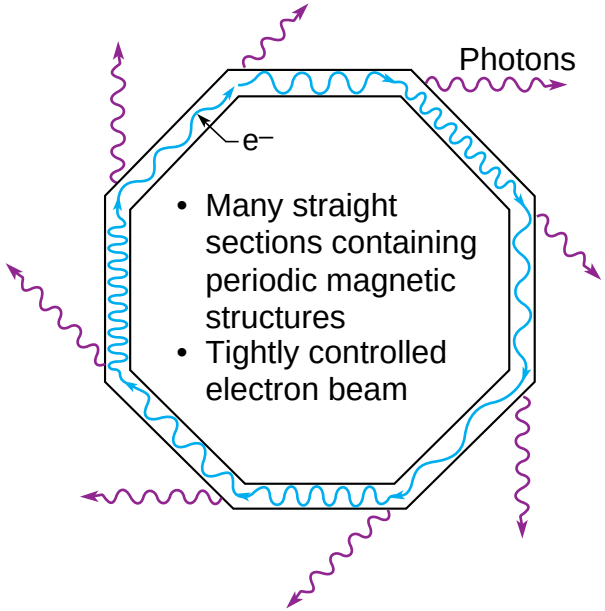
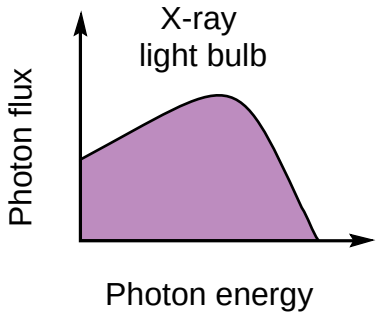
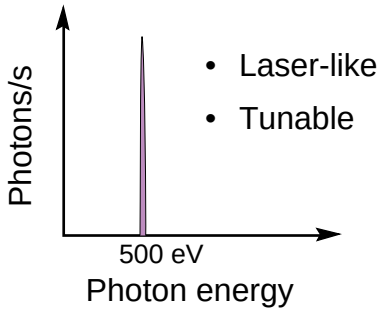
Evolution of Synchrotron Radiation

ALS

	Yesterday's Synchrotrons	Third-Generation Synchrotrons
Technology		
	Bend Magnet Radiation	**Undulator Radiation**
Spectral Distribution		

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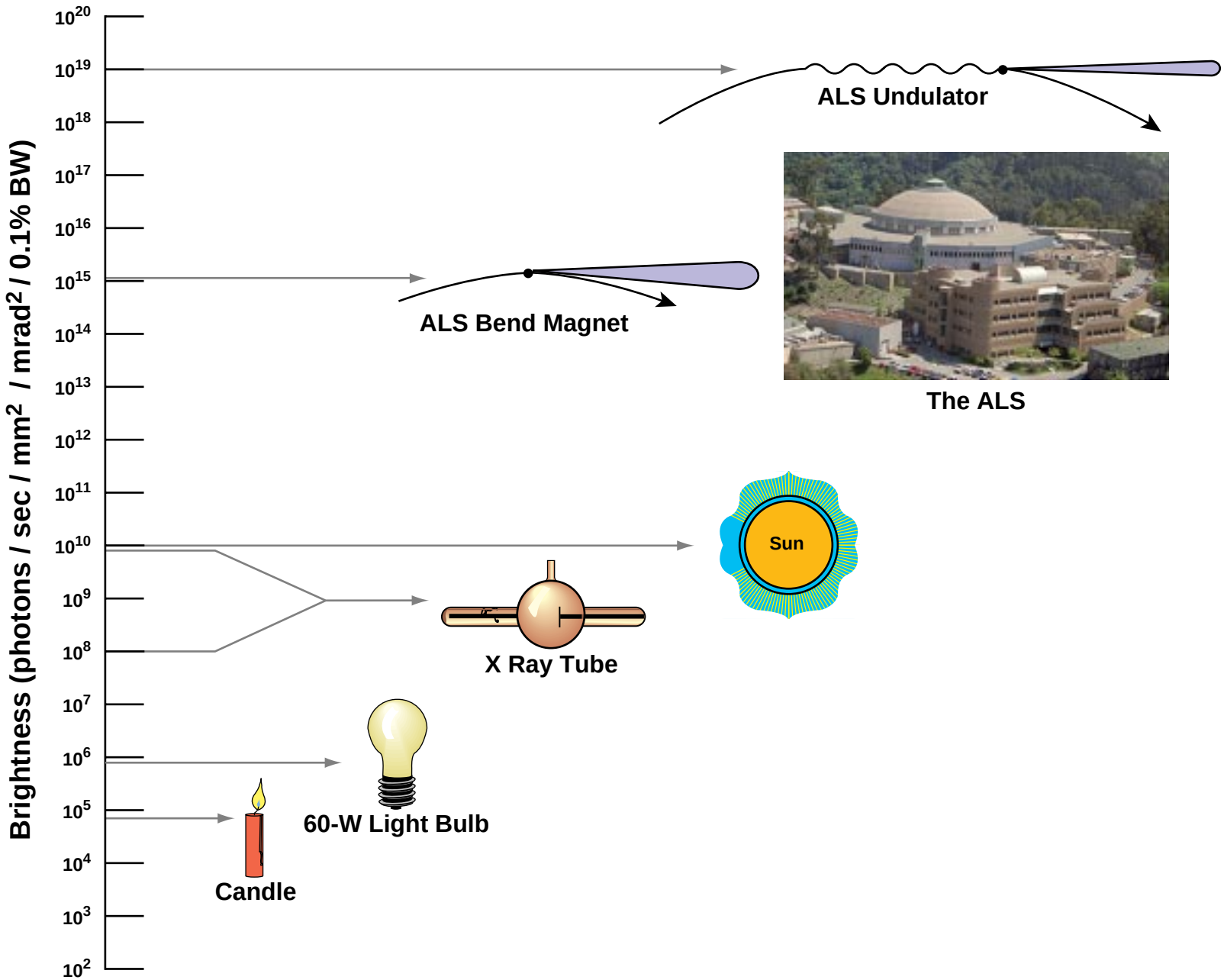
XBD9506-02543.PGM

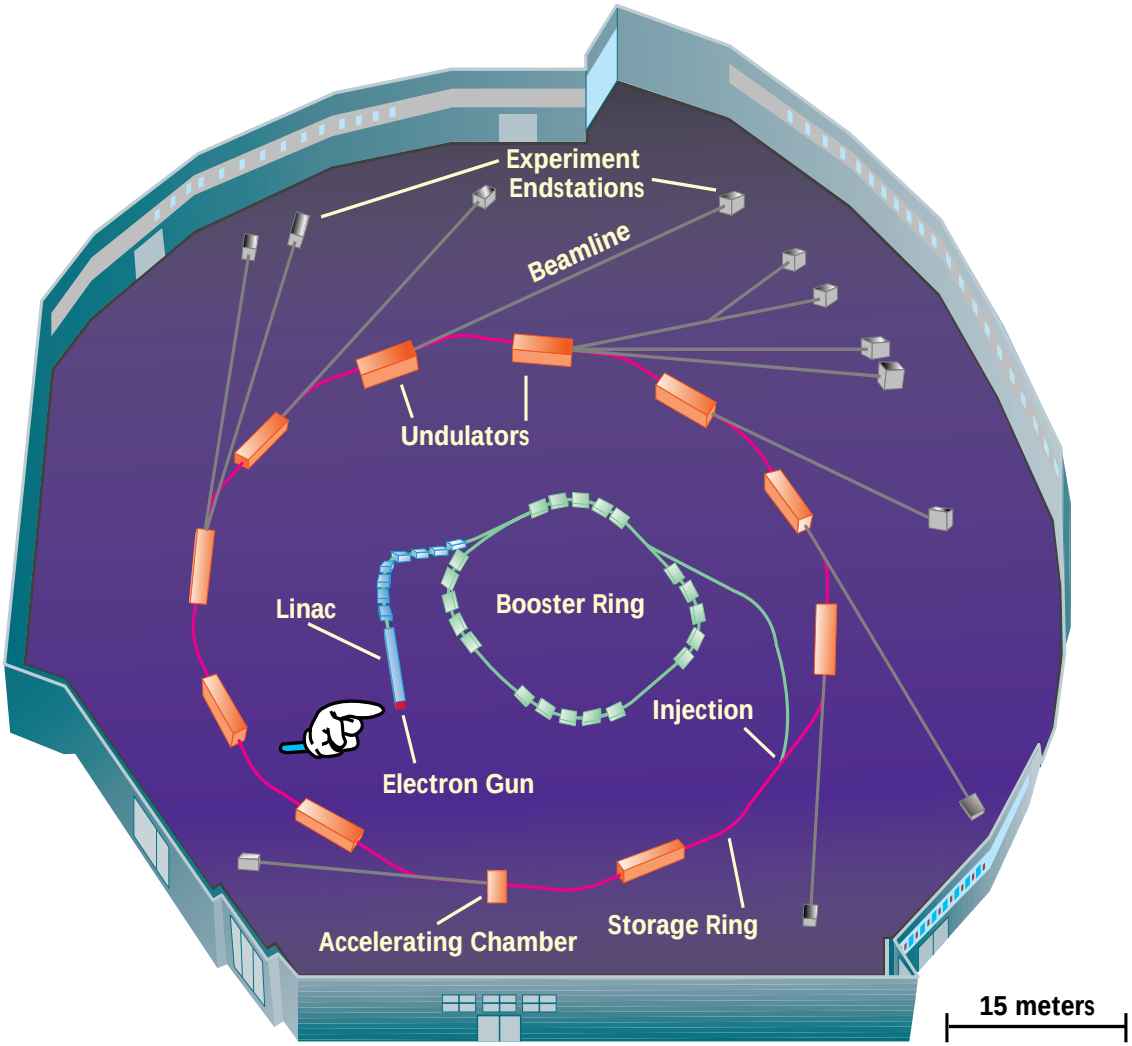
How Bright Is the Advanced Light Source?

ALS



Layout of the ALS

ALS



jc.fs/ALSposterlayout/PGM