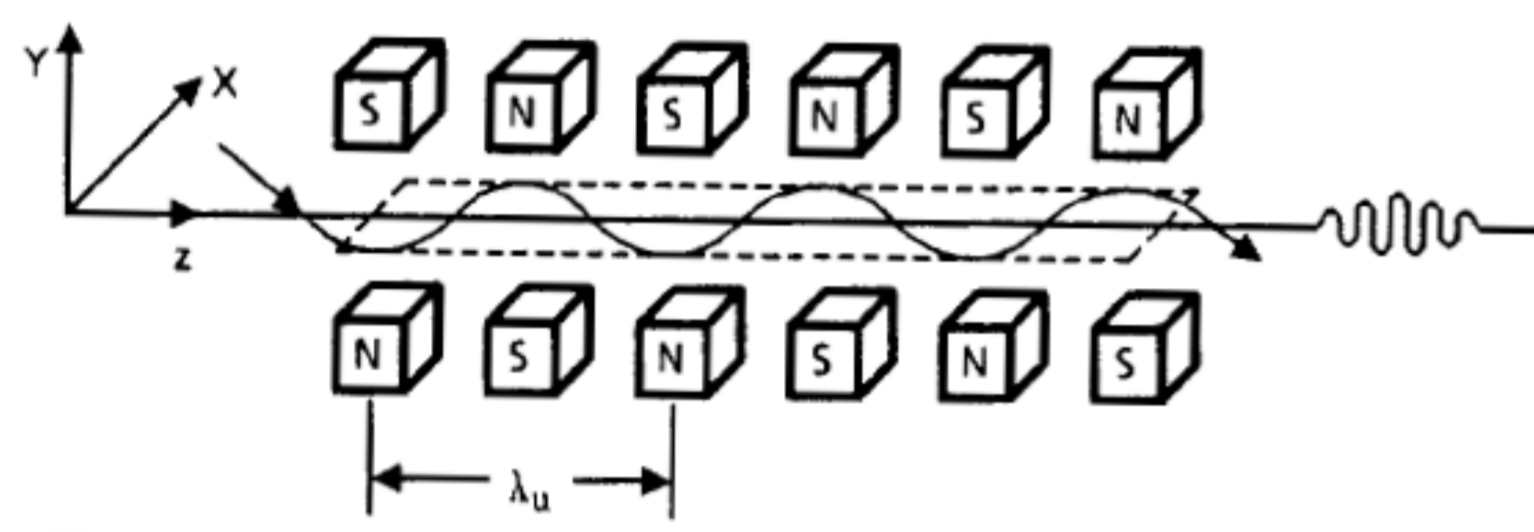
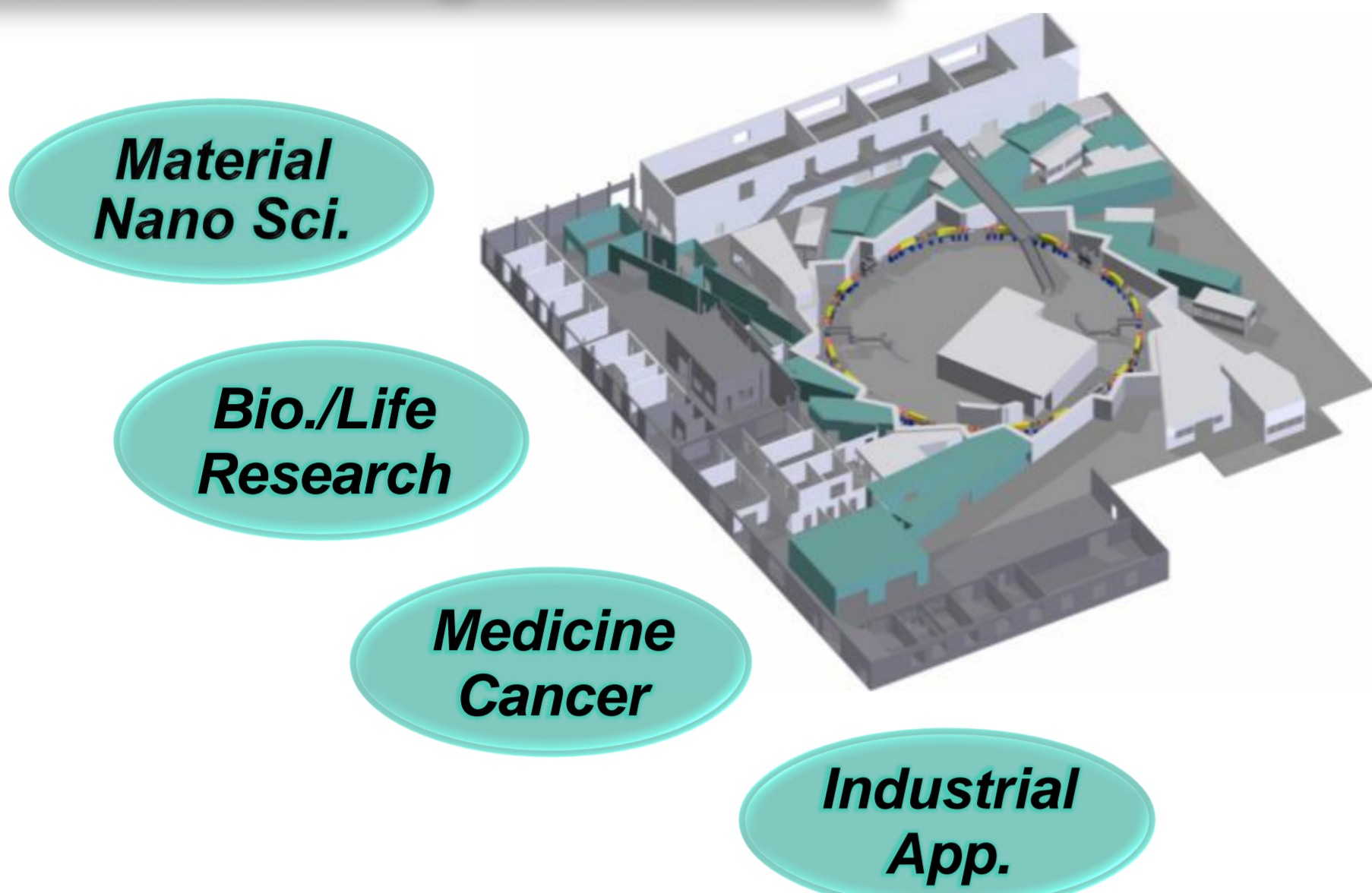


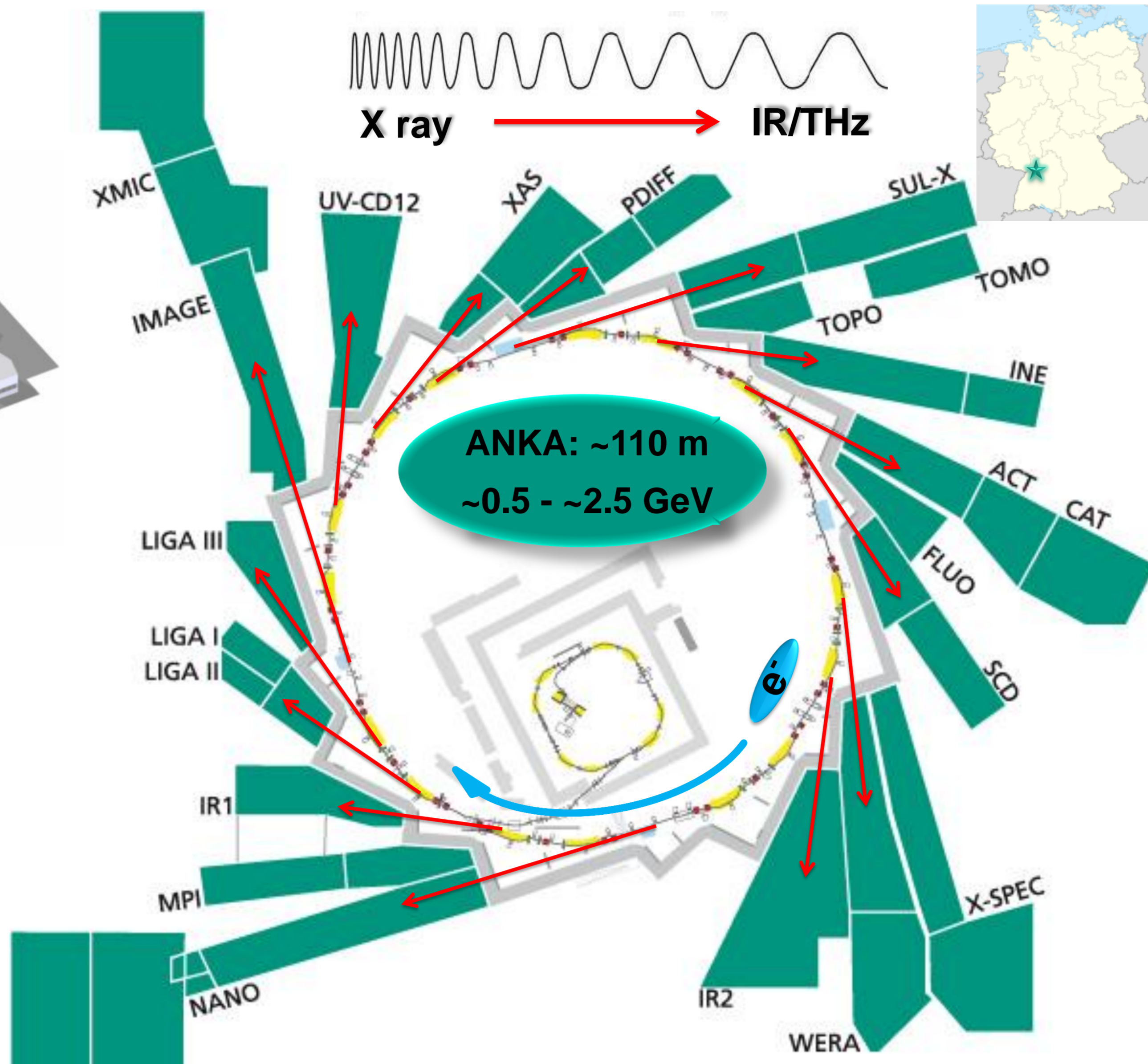
Energy measurement at ANKA based on Compton Back-Scattering (CBS)

Cheng Chang on behalf of ANKA CBS team

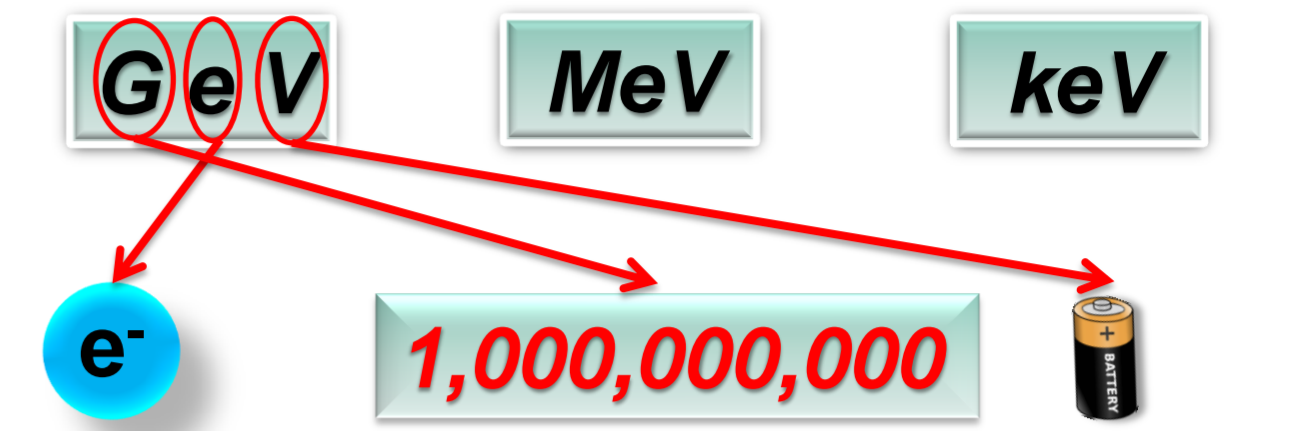
Synchrotron: Intensive Light Source



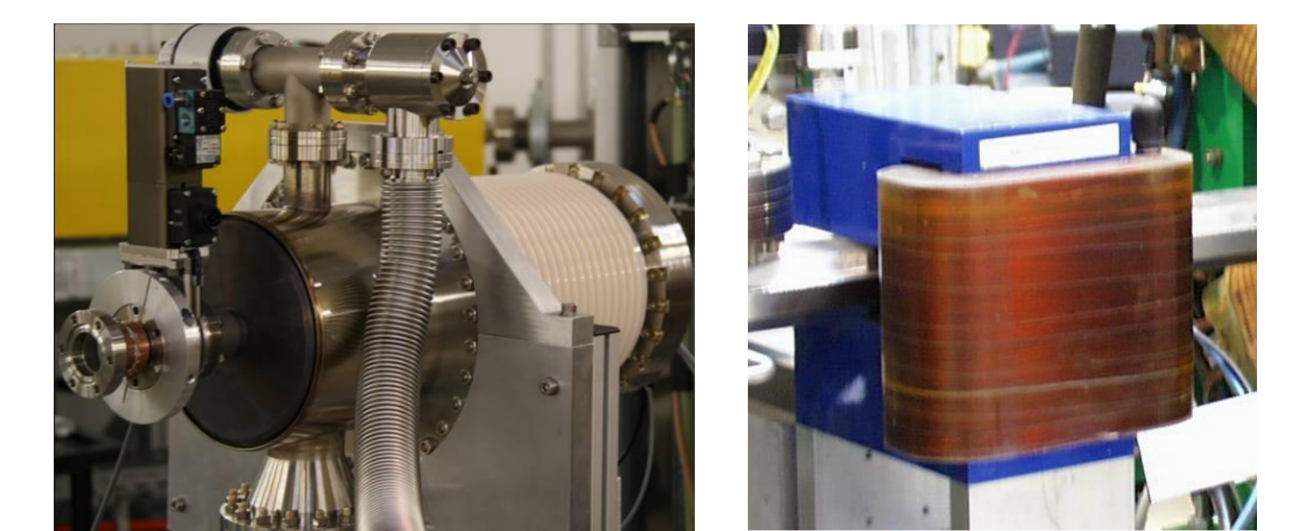
J. D. Jackson "Classical Electrodynamics", 1999



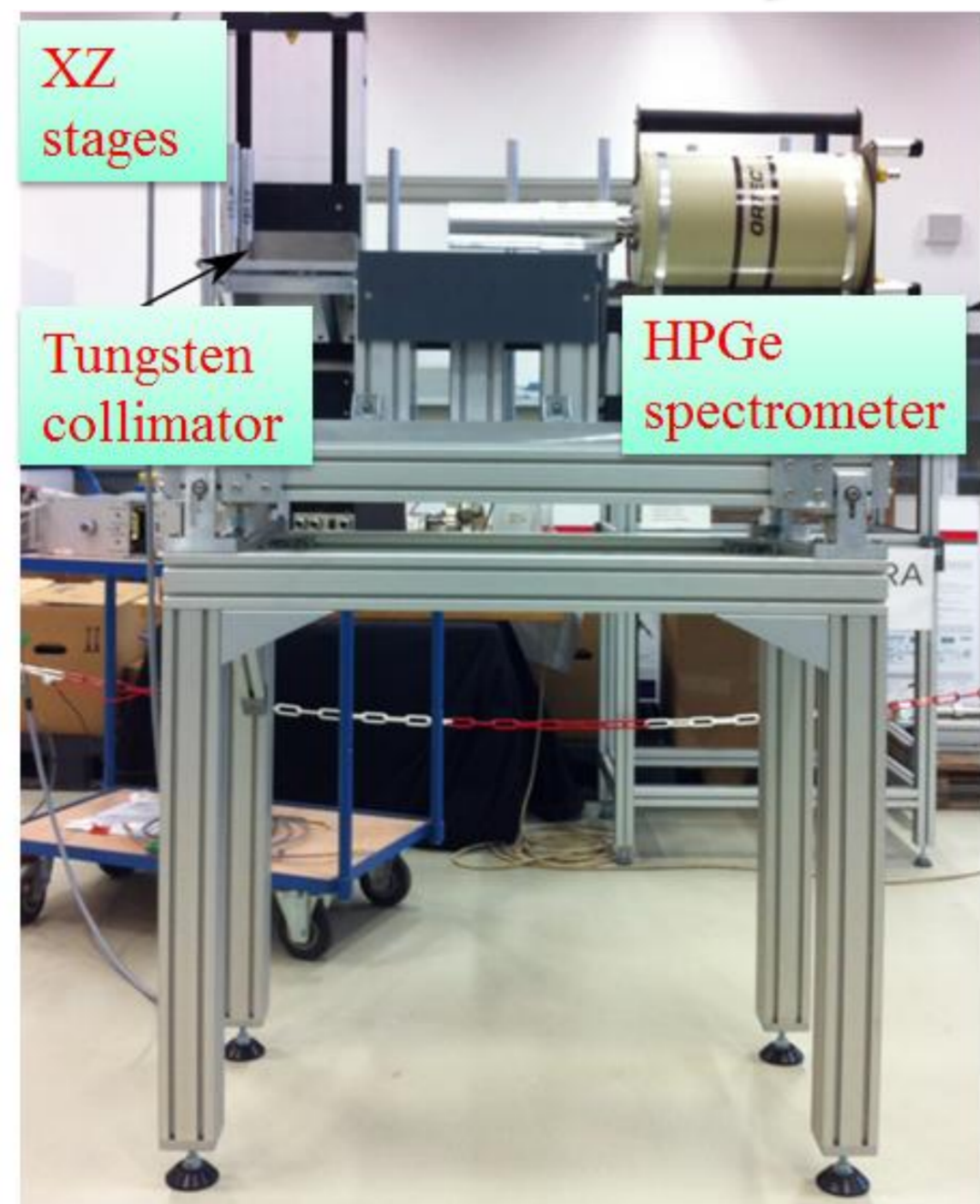
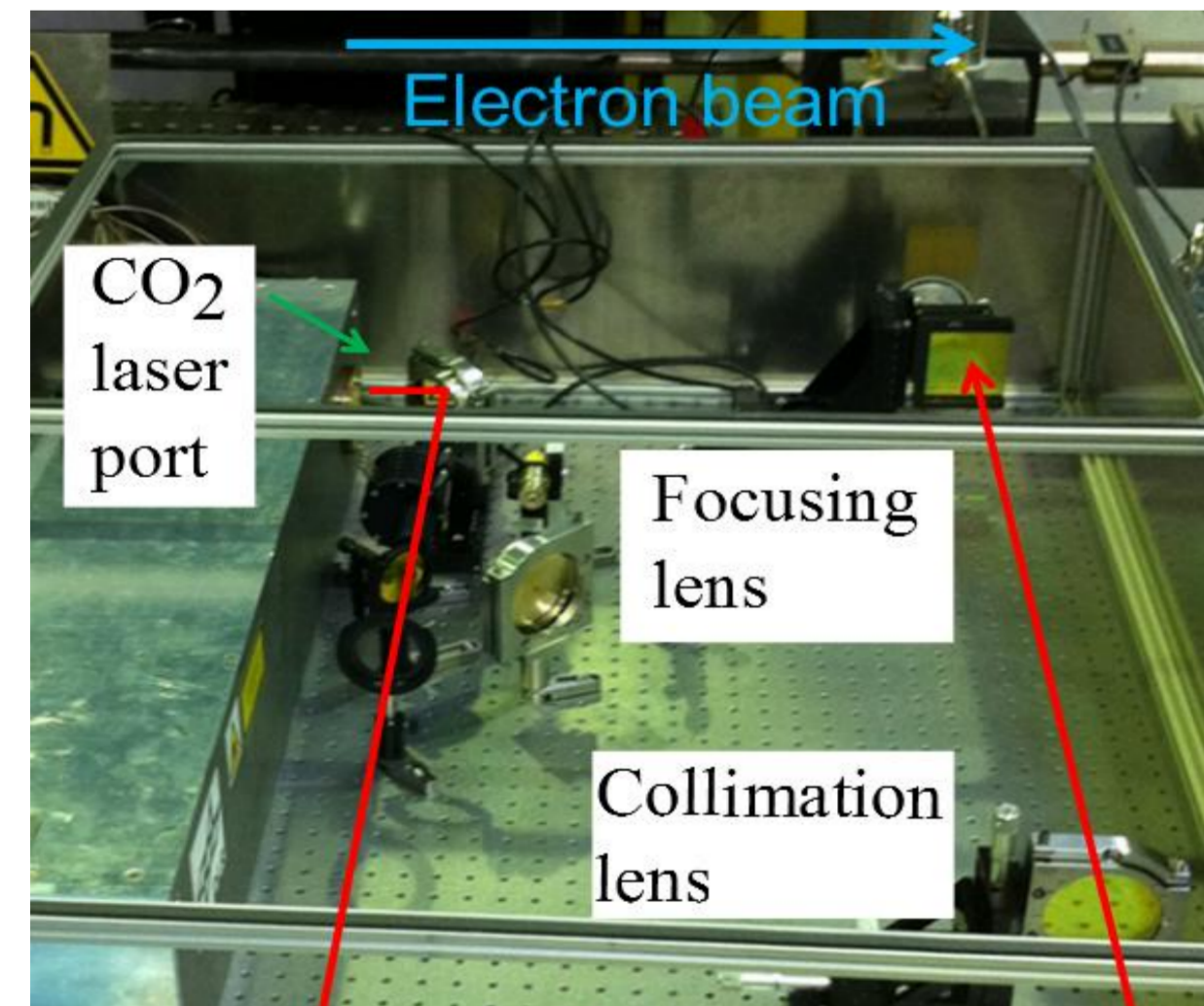
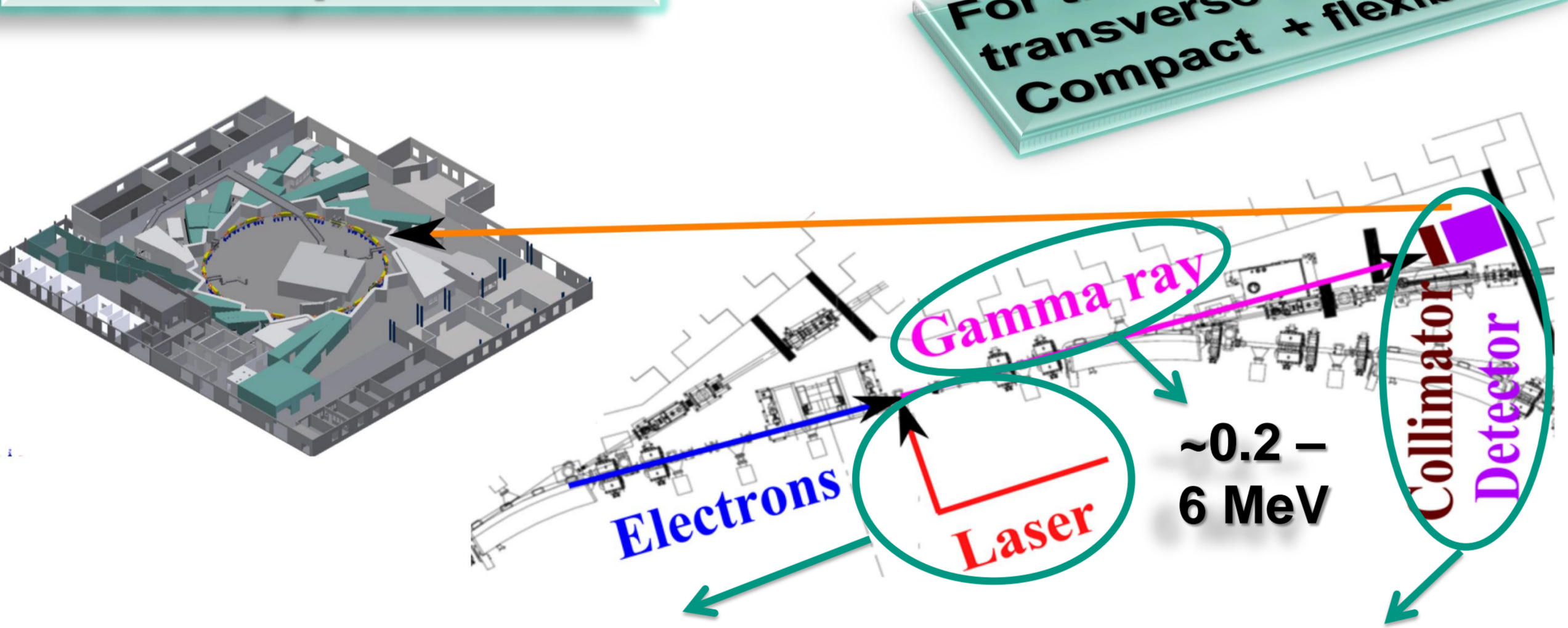
G(iga)	M(ega)	k(ilo)
billion	million	thousand



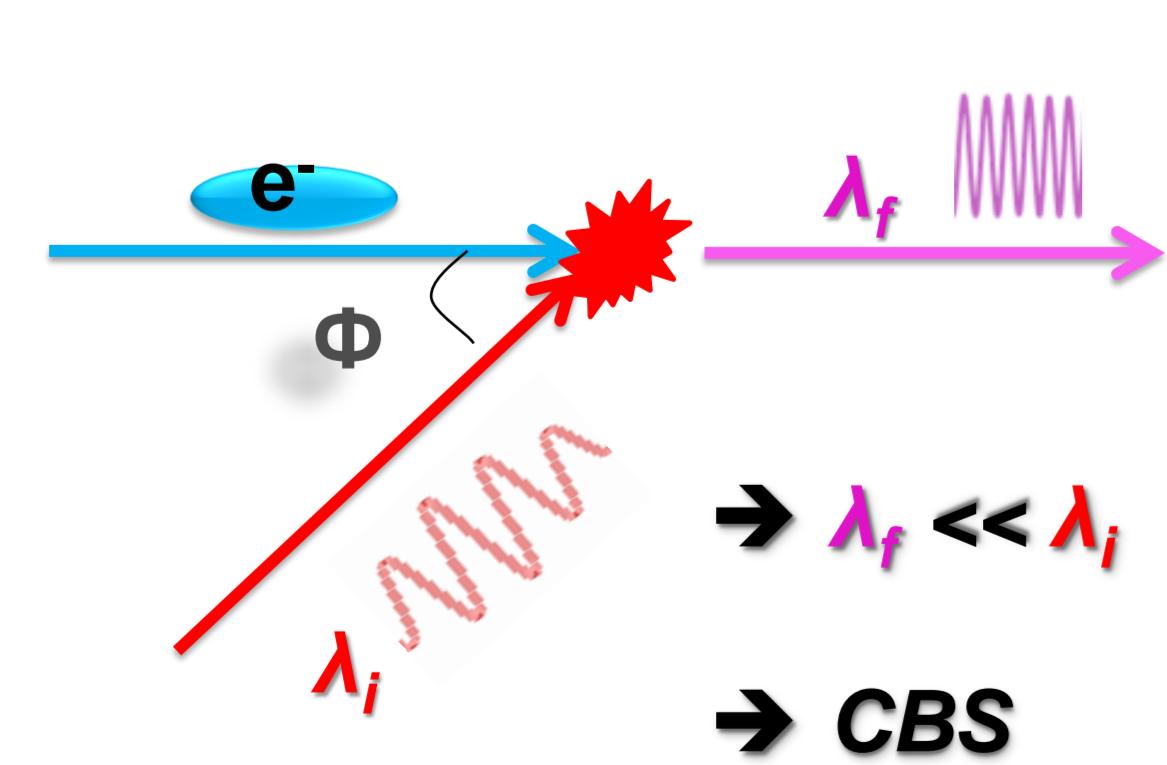
Energy (MeV)	Electron Speed (c)
5	99%
50	99.99%
500	99.9999%
5000	99.999999%



CBS Setup at ANKA



CO₂ laser photon
λ ~ 10 μm, E ~ 0.12 eV

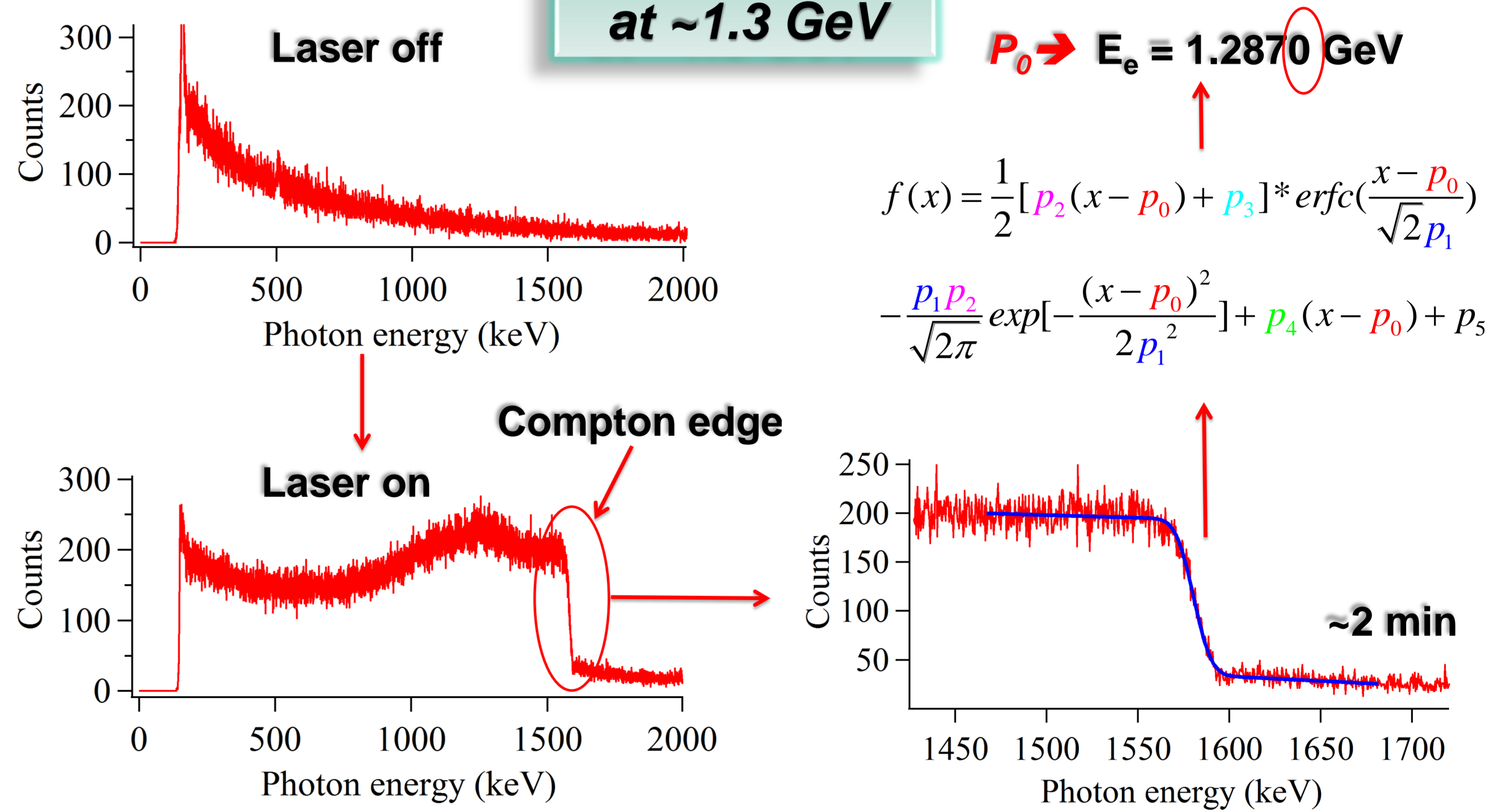


CLASS	FREQUENCY	WAVELENGTH	ENERGY
γ	300 EHz	1 pm	1.24 MeV
HX	30 EHz	10 pm	124 keV
SX	3 EHz	100 pm	12.4 keV
EUV	300 PHz	1 nm	1.24 keV
NUV	30 PHz	10 nm	124 eV
NIR	300 THz	1 μm	1.24 eV
MIR	30 THz	10 μm	124 meV
	3 THz	100 μm	12.4 meV

Denelson83 at en.wikipedia

- Φ ~ 90° → The whole energy range of ANKA
- Φ ~ 20° → Spring-8, highest synchrotron energy

Measurement at ~1.3 GeV



Other Results

