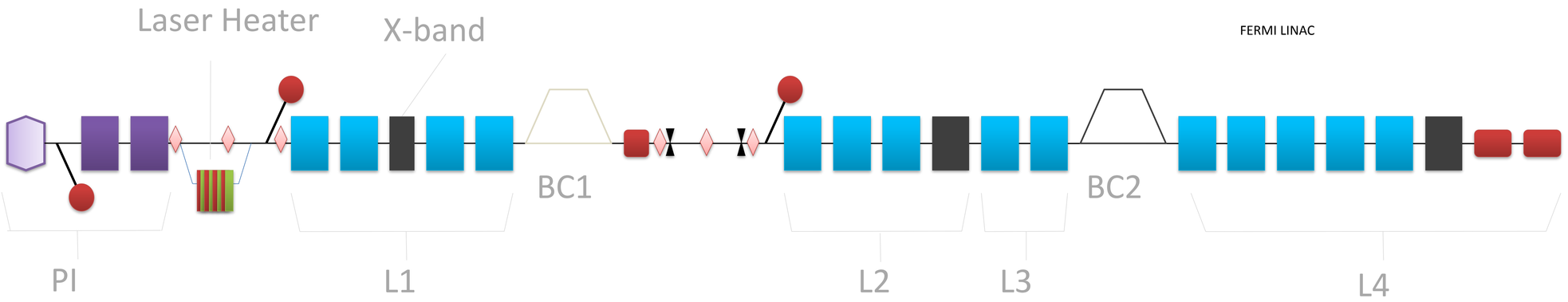
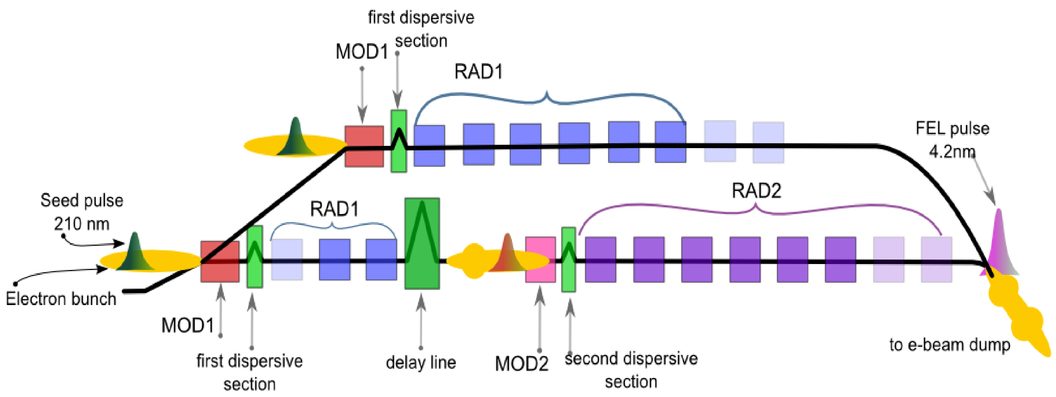
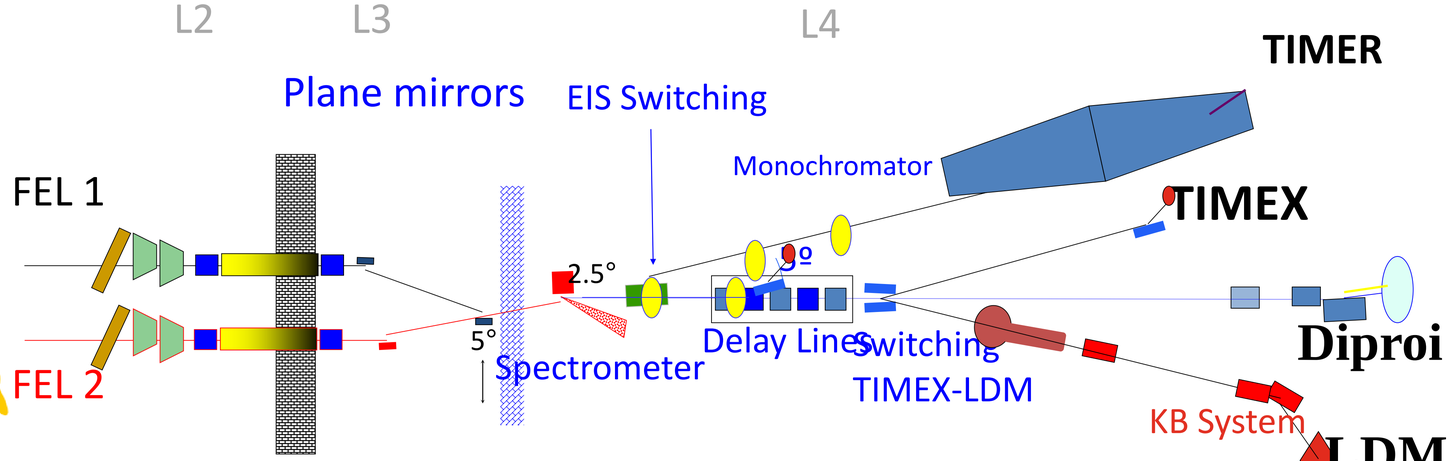
FIRST COHERENT RADIATION FROM THE FERMI@ELETTRA FREE ELECTRON LASER

ON BEHALF OF THE FERMI@ELETTRA PROJECT

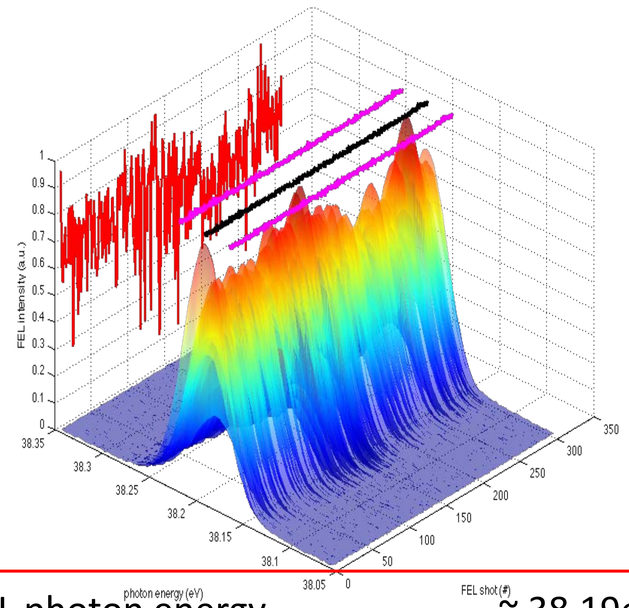
- **Eventually up to 1.8 GeV**





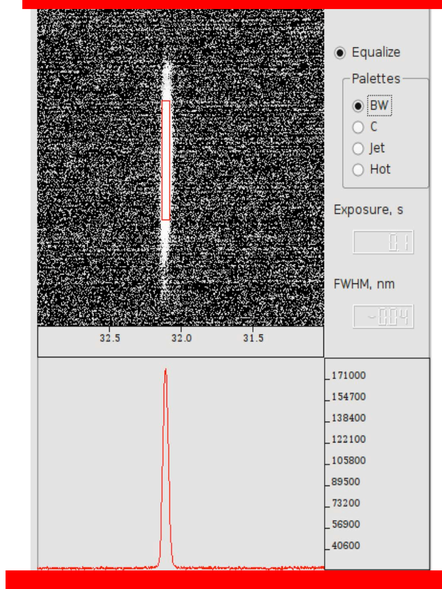
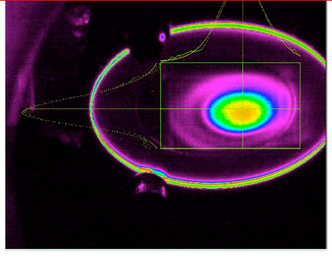


FEL-1 Cover the spectral range from ~100 nm down to 20nm. FEL-2, based on a double cascade of high gain harmonic generation covers the wavelength range from 20 nm to ~4 nm.



FEL photon energy	~ 38.19eV
Photon energy fluctuations (RMS)	= 1.1meV
FEL bandwidth (RMS)	= 22.5meV
(RMS)	= $5.9e^{-4}$
(RMS)	
FEL bandwidth fluctuations	= 3% (RMS)

Spectral emission



Transversal Intensity