



White Paper on THz Coherent Light Source in Uppsala

**Stockholm-Uppsala Centre for
Free Electron Laser Research**



SUFEL

MAX IV



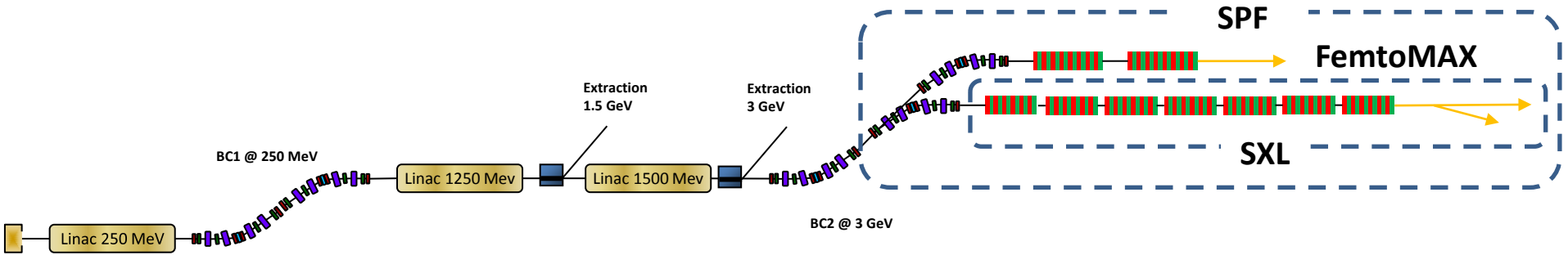
Experiments start 2017

Workshop to Define Science Case for Soft X-ray
Laser (SXL) at MAX IV, AlbaNova, Stockholm,
March 21-23, 2016



Funding for Conceptual Design Study during 2017-2018 will be sought

MAX IV SXL



The SXL parameters

Sketch of today	Workshop feedback	Phase 1	Phase 2
1-5 nm	1-5 nm	1-5 nm	
SASE	SASE	SASE	
Self seeding	Not 1st prio. External seeding		External seeding
	Two colour	(Two colour)	Two colour
	Two pulses	(Two pulses)	Two pulses
	Ultra short pulses	10 fs	Single fs
Planar in-vacuum undulator	Variable polarisation, APPLE III?	Helical undulators	
18 mm period	Consider 35-40 mm -> <u>no e- energy tuning</u>		
	Multiple pump sources (THz , UV, Soft X)	THz foil , UV laser	HHG laser, THz undulator