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Control System for a Dedicated Accelerator for SACLA Wide-Band Beam Line

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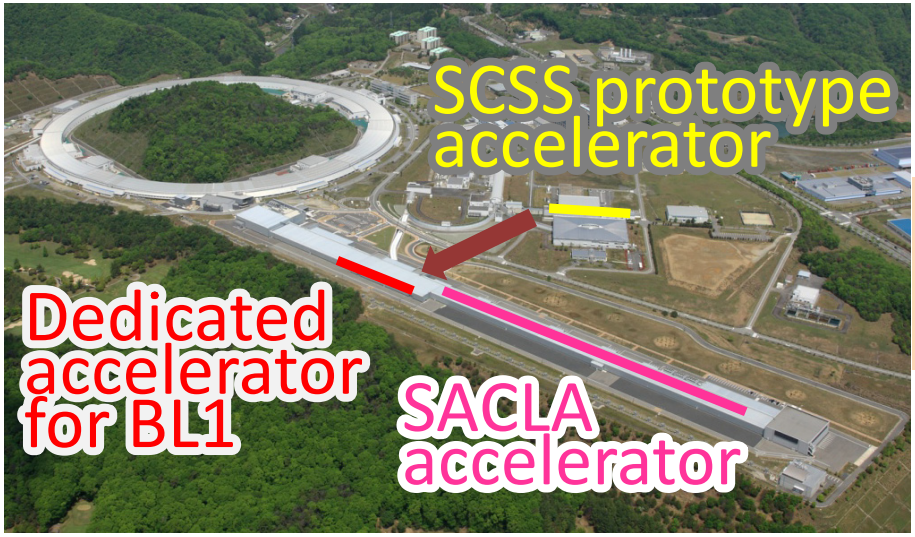
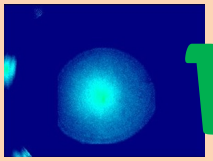
Project goal: To increase the user experiment opportunity at SACLA, the XFEL facility in Japan.

Solution: To reuse

SCSS prototype accelerator



		Status
May 2013	SCSS prototype accelerator shutdown	√
Sep. 2015	Beam commissioning start	√
Oct. 2015	First EUV-FEL observation 	√
Mar. 2016	User experiment at BL1	

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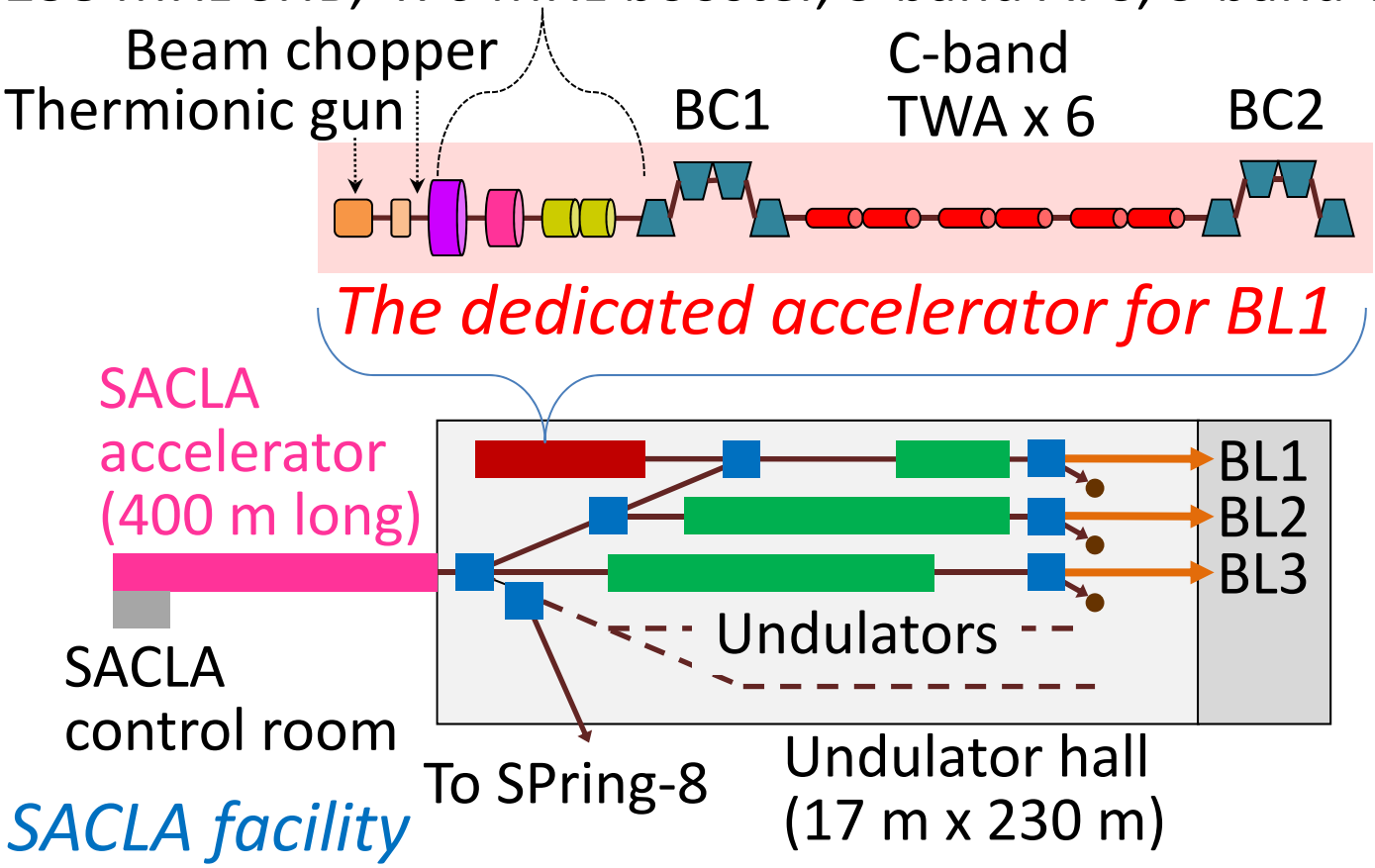
238 MHz SHB, 476 MHz booster, S-band APS, S-band TWA



Beam energy	420 MeV
Repetition rate	60 Hz
Photon wavelength	42 nm

Control system

The control system for the dedicated accelerator was constructed by reusing all software/hardware resources developed for SACLA.

MyCC, MySQL-based temporary data acquisition system compatible with MADOCA, was used at the RF conditioning. Then the system was smoothly transitioned to MADOCA.

The control system ensures the coordinated operation between the SACLA accelerator and the dedicated accelerator.