

# NewSUBARU

The NewSUBARU synchrotron light facility is operated by the Laboratory of Advanced Science and Technology for Industry (LASTI), University of Hyogo. This facility consists of an electron storage ring and nine beamlines. Electron injection is supplied from a 1 GeV linac of the SPring-8 facility. The conceptual layout of the NewSUBARU facility is illustrated in the figure. Nine beamlines are operated and in our lab, and these beamlines are focused on the research and development (R&D) of extreme ultraviolet lithography, the LIGA (German acronym for Lithographie, Galvanoformung and Abformung) process, chemical analysis, and novel light source study.

1) BL01 gamma-ray beamline is used in nuclear physics research and for the generation of high-energy positrons used in nondestructive material inspections.

2) BL02 and BL11 are the nano-micro manufacturing beamlines using large area X-ray lithography of micron order and in high aspect ratio patterning using LIGA processing technology.

3) BL03, BL09 and BL10 are the beamlines for the R&D of EUV lithography of next generation semiconductor devices. EUV resist evaluation technology and EUV mask inspection technologies are developed.

4) BL05, BL06, BL07 and BL09 are the material analysis beamlines used in the soft X-ray spectroscopy technologies such as X-ray absorption fine structure, X-ray photoelectron spectroscopy, and X-ray emission spectroscopy.

All NewSUBARU beamlines are open both for industrial usage and fundamental science research. Promotions of both the use and technical assistance for industrial users are supported by MEXT's "Project for Creation of Research Platforms and Sharing of Advanced Research Infrastructure."

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