BL40XU: Microbeam small-angle X-ray diffraction of hair

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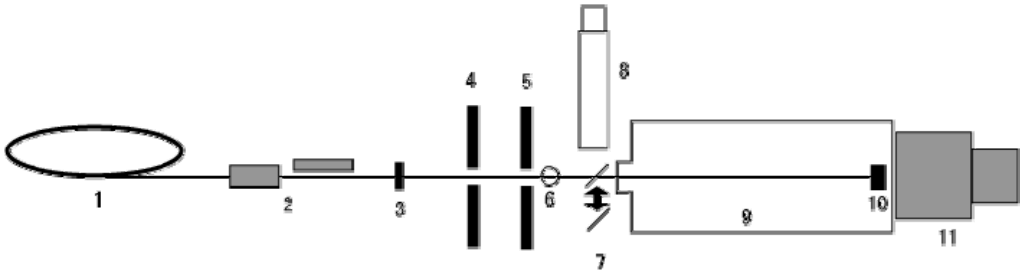
1. Introduction
    - A) Light source, slits and mirror systems of BL40XU
    - B) Microbeam small-angle X-ray diffraction
    - C) Hair

2. Training on adjustment of components
    - A) adjust the optical axis of He-Ne laser coaxially with X-ray
    - B) install optical tables for microbeam small-angle X-ray diffraction
    - C) adjust the positions of pinholes and a beam stop
    - D) adjust the position of a microscope for sample positioning
    - E) measure a beam size

3. Microbeam small-angle X-ray diffraction measurement and analysis
    - A) data acquisition of calibration sample
    - B) estimate the pixel size of a 2D detector
    - C) calibrate the scattering vector
    - D) scanning measurements using samples such as a hair
    - E) handling of scattering data in a 2D array



Schematic diagram of the microbeam small-angle x-ray diffraction set-up at BL40XU.
1. synchretron x-ray source, 2. two focusing mirrors, 3. x-ray shutter, 4. collimating pinhole,
5. guard pinhole, 6. sample, 7. optical mirror for sample positioning, 8. microscope system,
9. vacuum pipe, 10. beam stop, 11. x-ray detector