

Laser ablation for diamond X-ray optics

The material diamond is ideally suited for refractive X-ray optics that are used in synchrotron radiation facilities such as EuXFEL and PETRA III. However, material properties pose a challenge for fabrication. Laser ablation is one tool to shape diamond substrates into lenses, but surface roughness is a critical parameter. The student will investigate the ablation process, optimize parameters, and explore new opto-chemical etching techniques. The work is lab based and will involve ablation studies (40%) and sample investigations with a laser scanning microscope (40%). Basic programming skills are needed to control the ablation process and evaluate data (20%).

Field

A5: Lasers and optics (methodology oriented)

DESY Place

Hamburg

DESY Division

FS

DESY Group

FS-PETRA

Special Qualifications:

Experience with lasers

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