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Advances in Laboratory-based X-Ray Sources, Optics, and Applications IV

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Editors

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Introduction

Since the discovery of X-rays and for most of their 110 year history, there has been an increasing demand for more powerful X-ray sources. Substantial investment and research has led the development of worldwide synchrotron facilities to satisfy research needs. However, industrial and medical applications typically cannot rely on remote sources. Despite the relative lack of investment, there has been steady progress in the development of a variety of laboratory-based sources and optics for medical, industrial, and related applications.

The presentations at this conference provided a broad review of the recent advances in source and optics developments, as well as a number of applications. We hope that the conference fosters closer collaboration between the developers and users of laboratory-based X-ray systems.

The first part of the conference concentrated on source development, including laser-based, triboelectric, inverse Compton, field emission, nanometer focus, liquid jet sources, and also the thermal management of anodes. This was followed by a discussion of optics, including electroform mirrors, channel cut monochromators and multilayer optics and applications including CT microscopy, and phase, monochromatic and stroboscopic imaging.

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