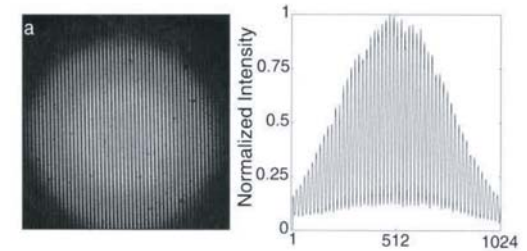
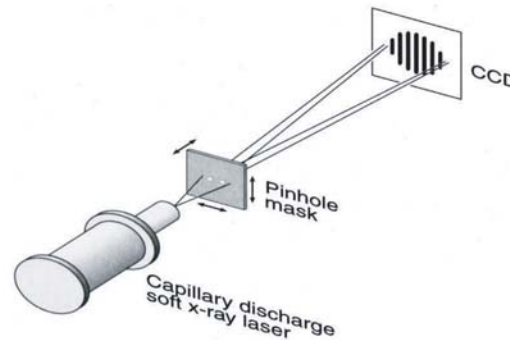


History and solution of the phase problem in the theory of structure determination of crystals from X-ray diffraction experiments



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The most important researches carried out in this field will be reviewed and a recently obtained solution of the phase problem will be presented.

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and The Institute of Optics
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Abstract

Since the pioneering work of Max von Laue on interference and diffraction of X-rays carried out almost a hundred years ago, numerous attempts have been made to determine structures of crystalline media from X-ray diffraction experiments. Usefulness of all of them has been limited by the inability of measuring phases of the diffracted beams.

In this talk the most important researches carried out in this field will be reviewed and a recently obtained solution of the phase problem will be presented.

Biography

Emil Wolf is Wilson Professor of Optical Physics at the University of Rochester, and is reknowned for his work in physical optics. He has received many awards, including the Ives Medal of the Optical Society of America, the Albert A. Michelson Medal of the Franklin Institute, and the Marconi Medal of the Italian Research Council. He is the recipient of seven honorary degrees from universities around the world. He co-authored the well-known text *Principles of Optics* (with Max Born, seventh edition, Cambridge University Press, 1999) and *Optical Coherence and Quantum Optics* (with Leonard Mandel, Cambridge University Press, 995). He has also been editor of a well-known series *Progress in Optics* since its inception. Fifty volumes of *Progress in Optics* have been published to date. This year marks the fiftieth anniversary of his joining the faculty of the Institute of Optics.