World Academy of Science, Engineering and Technology
International Journal of Physical and Mathematical Sciences
Vol:10, No:10, 2016

Mathematical Reconstruction of an Object Image Using X-Ray Interferometric Fourier Holography Method

Authors : M. K. Balyan

Abstract : The main principles of X-ray Fourier interferometric holography method are discussed. The object image is reconstructed by the mathematical method of Fourier transformation. The three methods are presented – method of approximation, iteration method and step by step method. As an example the complex amplitude transmission coefficient reconstruction of a beryllium wire is considered. The results reconstructed by three presented methods are compared. The best results are obtained by means of step by step method.

Keywords : dynamical diffraction, hologram, object image, X-ray holography
Conference Title : ICXRNO 2016 : International Conference on X-Ray and Neutron Optics
Conference Location : Bali, Indonesia
Conference Dates : October 13-14, 2016

Open Science Index, Physical and Mathematical Sciences Vol:10, No:10, 2016 publications.waset.org/abstracts/56283/pdf