

# Materials analysis using a nuclear microprobe

**John Wiley - Materials analysis at the SNL/LLNL nuclear microprobe**



Description: -

- Materials -- Analysis.

Materials -- Effect of radiation on.

Ion bombardment. Materials analysis using a nuclear microprobe

- Materials analysis using a nuclear microprobe

Notes: Includes bibliographical references and index.

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## FANM: A software for focus and aberrations of nuclear microprobe

Visible beneath the ion-source bottle are the electrodes of an einzel lens used to inject the ion beam into the accelerator.

## Materials analysis with nuclear microprobes: Superconductors and buried conductors (Conference)

For 38 keV electrons shown in Figure 1. Blocked Trajectories It has been described above how ions can be steered through a crystal by successions of correlated collisions with the rows or planes of the lattice. The precise effects of ion irradiation are therefore difficult to characterize accurately.

## FANM: A software for focus and aberrations of nuclear microprobe

Ziegler, Hydrogen Stopping Powers and Ranges in All Elements.

## [PDF] Materials Analysis Using A Nuclear Microprobe

In the high-energy regime, the variance of the energy straggles after traversing a distance  $z$  through matter is ; This predicts that  $Q$  increases with the areal electron density,  $NZ^2z$ , traversed by the ions but does not depend on the ion energy. The high background under the electron induced X-ray spectrum resulted in several trace elements being undetected, although they are clearly visible in the PIXE spectrum. The elastic scattering cross-section is usually given in units of barns  $\text{cm}^2$  , which is roughly the size of the atomic nucleus.

## Materials Analysis Using a Nuclear Microprobe: Breese, Mark B. H., Jamieson, David N., King, Philip J. C.: 9780471106081: spaceneb.us.to: Books

Applications in this case could include imaging of the distribution of a heavy element from the M shell X-rays, or of light elements from their K shell X-rays.

## Nuclear microscopy: A new way of analyzing materials

Work with the excellent facilities there and interactions with the researchers have made me appreciate the great potential of this new field and the many possible analytical applications. The probe-forming lens system is usually located as close as possible to the sample, so that the object distance is long and the image distance is short. This enhanced dechanneling is exploited by the CSTIM technique to produce images of crystal defects.

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