

Abstract Submitted
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Analysis of crystals using electron diffraction ROBERT NICK LAN-
NING, CRISTIAN BAHRIM, Department of Physics, Lamar University — Mea-
surements of diffraction patterns produced by electronic beams incident on crystals
reveal their atomic arrangement and allow one to find the length of the chemical
bonds with high precision. Using fundamental principles we can understand the for-
mation of electronic wave packets when electron projectiles pass through the crystal.
The effective electronic charge of the atoms in the crystal acts as an arrangement of
narrow slits which generate the Fourier transform of the sinusoidal waves associated
to the electron projectiles incident on the crystal. Our study has applications in elec-
tronic microscopy, microbiology, and crystallography. This project was sponsored
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science including physics, at Lamar University.

[1] Doerschuk P, Bahrim C, Daniel J, Kruger J, Mann J, and Martin Ch, *39th
ASEE/IEEE Frontiers in Education Conference*, San Antonio 2009, M3F-1-2.

Cristian Bahrim
Department of Physics, Lamar University

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