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FAST-PARTICLE EMISSION AS A PROBE OF THE ENERGY DISSIPATION MECHANISM IN DEEP-INELASTIC REACTIONS

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Abstract

FAST-PARTICLE EMISSION
AS A PROBE OF THE ENERGY DISSIPATION
MECHANISM IN DEEP-INELASTIC REACTION

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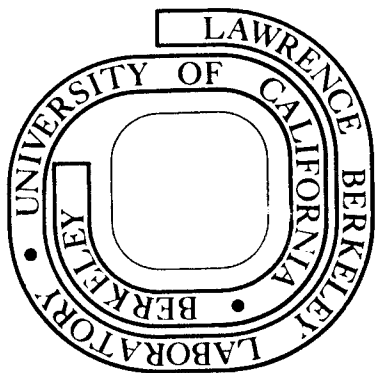
G. J. Wozniak, R. P. Schmitt, G. U. Rattazzi,
G. J. Mathews, L. Sobotka, M. Lutolf and L. G. Moretto

January 1979

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January 30, 1979

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Abstract

Abstract Submitted
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Meeting of the American Physical Society

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Date of Meeting

Physical Review
Analytic Subject Index
Number

25.70

Bulletin Subject Heading
in which Paper should be placed

Heavy Ions

Fast-Particle Emission as a Probe of the Energy
Dissipation Mechanism in Deep-Inelastic Reactions.*

G. J. WOZNIAK, R. P. SCHMITT, G. U. RATTAZZI, G. J.
MATHEWS, L. SOBOTKA, M. LUTOLF, and L. G. MORETTO, LBL--

The nature of the energy dissipation mechanism in deep-inelastic reactions is still largely undetermined. In particular, it is not clear whether the large energy damping is due to one-body viscosity, two-body viscosity or some other mechanism. A signature of the energy dissipation process might be found in the study of the light charged particles emitted in deep-inelastic reactions. To this end we have fixed a Z-telescope at 14° and measured the coincident proton angular distribution from very forward to very backward angles on both sides of the beam axis. In addition, we measured the multiplicity of γ rays emitted by the reaction products utilizing six 3-inch by 3-inch NaI counters. With this experimental system, we measured all possible Z- γ , p- γ , Z-p and Z-p- γ coincidences as well as singles in all telescopes. The results of the particle-particle angular correlation and the γ ray multiplicities will be discussed.

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Submitted by

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